

Fairfax County

Fire and Rescue Department

COMMISSION ON FIRE ACCREDITATION
INTERNATIONAL FIRE AND EMERGENCY SERVICES

Community Risk Assessment



STANDARDS OF COVER

2017

Page Left Intentionally Blank

INTRODUCTION

This report serves as the Fairfax County Fire and Rescue Department's (FCFRD) "Integrated Risk Management Plan: "Standards of Cover" document. The Commission on Fire Accreditation International (CFAI) defines the process known as "deployment analysis" as a written procedure which determines the distribution and concentration of fixed and mobile resources of an organization. The purpose for completing this document is to assist the FCFRD in ensuring a safe and effective response force for emergency medical services, fire suppression, and specialty response situations. This document conforms to the 6th edition of the CFAI Standards of Cover guidelines.

The creation of this Standards of Cover was a collaboration internally and with external stakeholders and required that a number of key areas be researched, studied, and evaluated. The report begins with an overview of both the community and the fire service. Following this overview, the agency will discuss areas such as risk assessment, critical task analysis, agency service level objectives, and distribution and concentration measures. The FCFRD will provide documentation of reliability studies and historical performance through charts and graphs. This report concludes with policy recommendations.

Fairfax County Fire and Rescue Department is an "ALL-Hazards" Department providing emergency medical response, fire suppression, technical rescue, hazardous materials response, fire inspections, public education, investigation, and community training and education. The FCFRD strives to provide the highest quality services to protect the lives, property, and environment of our community. Currently the FCFRD is pursuing accreditation through the Commission on Fire Accreditation International.

VISION

The Fairfax County Fire and Rescue Department is dedicated to being a premier community focused fire and rescue department ensuring a safe environment for everyone.

MISSION

Provide the highest quality services to protect the lives, property, and environment of our community.

CORE VALUES

- Integrity
- Professional Excellence
- Health, Safety and Wellness
- Diversity
- Teamwork and Shared Leadership
- Community Engagement

FIRE CHIEF'S EXPECTATIONS

- Be Ready, Be Safe, Be Fit and Healthy
- Be Kind and Respectful
- Execute the Basics Perfectly
- Train, Train, Train
- Work Together
- Embrace Diversity and Mentor
- Community Outreach



ACKNOWLEDGEMENTS

FAIRFAX COUNTY FIRE AND RESCUE DEPARTMENT LEADERSHIP

Fire Chief Richard R. Bowers

Assistant Chief John Caussin

Assistant Chief Reginald Johnson Jr.

Assistant Chief Charles Ryan, III

STANDARDS OF COVER DEVELOPMENT

CFAI Sponsor - Deputy Chief Jason Jenkins

CFAI Accreditation Manager - Captain II Richard Merrell

Strategic Planning- Management Analyst III Laurie Stone

Performance Data - Management Analyst III Maura Powers

Operations and Field Support - Lt. Kristopher Johnson

TABLE OF CONTENTS

Executive Summary	9
1. Community Risk Assessment	
1.1 Community Characteristics	10
Legal Basis	10
History of Service	13
Service Today	15
Financial	18
Service Area Description	19
Fairfax County Demographics	20
Surrounding Communities	22
Weather	23
Transportation Network	24
Additional Infrastructure	26
1.2 Risk Assessment Methodology	29
Community Safety and Education	33
Community Fire Protection Systems, Inspections, and Plans Review	34
Population Categories and Areas	35
1.3 Community Wide Risk	36
Flooding	36
Winter Weather	36
Wind and Thunder Storms	37
Heat Emergencies	37
1.4 Community Loss and Save Information	38
1.5 Response Category Risk	39
Emergency Medical Services	39
Fire Response	40
Hazardous Materials Response	43
Technical Rescue Response	44
1.6 Risk, Deployment and Response by Service Demand Zones	45
Battalion 401	46
Battalion 402	71
Battalion 403	99
Battalion 404	127
Battalion 405	150
Battalion 406	175
Battalion 407	199

2. Standards of Cover

2.1 Department Resource Deployment.....	222
2.2 Consistent Provision of Service Across Agency.....	224
Service Provision Methodology.....	224
2.3 Deployment Considerations.....	225
Computer Aided Dispatching (CAD).....	225
Unit Types and Staffing.....	226
Response Levels.....	226
Resiliency.....	227
2.4 Critical Task Analysis.....	229
Emergency Medical Services.....	229
Fire Suppression.....	231
Hazardous Materials Incidents.....	234
Technical Rescue.....	237
2.5 Baseline Performance.....	239
Performance Monitoring Methodology.....	239
Population Categories.....	239
Hazard Types.....	240
System Wide.....	240
Emergency Medical Services.....	241
Fire Suppression.....	244
Hazardous Materials.....	248
Technical Rescue.....	251
2.6 Benchmark Objectives.....	254
All Programs.....	254
Emergency Medical Services.....	254
Fire Suppression Services.....	255
Hazardous Materials Services.....	255
Technical Rescue Services.....	255
Other Emergency Services.....	256
Benchmark Objective Tables.....	256
2.7 Evaluation of Performance.....	257
Evaluation Methodology.....	257
Factors to Consider.....	258
2.8 Plan for Maintaining and Improving Response Capabilities.....	259
Correlation of CRA-SOC to CFAI Accreditation 9 th Edition.....	260
Recommendations.....	263

Appendices/Exhibits

EXECUTIVE SUMMARY

Fairfax County Fire and Rescue Department (FCFRD) has proudly provided fire protection services to Fairfax County, Virginia, for the past 68 years. FCFRD's mission is to provide the highest quality services to protect the lives, property, and environment of our community. It is our mission that drives FCFRD to assemble and publish its annual Community Risk Analysis and Standards of Cover (CRA-SOC)

Since its inception on June 15, 1949, FCFRD has grown into an all-hazards fire department, employing 1,397 uniformed and 164 non-uniformed men and women. The FCFRD is comprised of 38 fire stations organized into seven battalions. In total FCFRD has 38 pumpers, 14 ladders, 8 heavy rescues, 42 Advanced Life Support transport units, one HazMat unit, two foam units, and an additional support fleet that provides services to the community.

FCFRD's CRA-SOC is an in-depth compilation of data collected throughout the year to showcase the department's strengths and areas of improvement within current operations by incorporating a community risk trio of analyzation, mitigation, and prevention.

Within this document, FCFRD presents a risk assessment; department and system performance; drive time analysis; established baselines; benchmarks and service level objectives for all emergency services; and an explanation of the methodologies incorporated in this data compilation.

FCFRD's CRA-SOC provides an illustration of the department's continuous endeavor towards achieving and maintaining its mission. Through hard work and dedication, the department hopes to improve the quality of life for the communities it serves.

Community Risk Assessment

1.1 Community Characteristics

Legal Basis:

Fairfax County, Virginia, is governed by a Board of Supervisors/County Executive form of government. The Fairfax County Fire and Rescue Department operates under the authority delegated by the Fairfax County Board of Supervisors. The Fairfax County Board of Supervisors is comprised of nine elected supervisors. The supervisors represent the county's magisterial districts, including one elected at-large member serving as the Chairman of the Board. All seats on the Fairfax County Board of Supervisors are elected to a four-year term. Board members elect a vice-chair each year at their first meeting in January. The following individuals represent the current elected and appointed positions within Fairfax County, Virginia.

Elected Members of the Board of Supervisors:



From left to right:

Daniel G. Storck	Mount Vernon District
John C. Cook	Braddock District
Catherine M. Hudgins	Hunter Mill District
Jeff C. McKay	Lee District
Sharon Bulova	Chairman, At-Large
Penelope A. Gross	Mason District, Vice Chairman
John W. Foust	Dranesville District
Kathy L. Smith	Sully District
Linda Q. Smyth	Providence District
Pat Herrity	Springfield District

Appointed Leadership:

County Executive Bryan Hill

Deputy County Executive of Public Safety David M. Rohrer

Fire Chief Richard R. Bowers

Fairfax County Overview:

Chartered.....	1742
Area in Sq. Miles-Land.....	395
Area in Sq. Miles-Total.....	405
Population.....	1,130,875 (2016)
Form of Government.....	Urban County Executive Governed by 10 member Board of Supervisors
Assessed Valuation.....	\$233,373,141,270 (2017)
Real Estate Tax Rate.....	\$1.13 per \$100 of assessed value
Personal Property Tax Rate.....	\$4.57 per \$100 of assessed value
FY 2017 Adopted Budget.....	\$4.01 Billion

HISTORY OF SERVICE

In 1949, the Fairfax County Board of Supervisors approved the founding of the Fairfax County Fire and Rescue Department. For over 30 years prior, men volunteered their services as firefighters to the county. On July 1, 1949, 10 career firefighters were hired and assigned to the 11 volunteer stations throughout the county. These firefighters served primarily as apparatus drivers during the day and responded to “after hours” calls from their homes.



At that time, Fairfax County was showing signs of rapid expansion. The housing boom following World War II brought an influx of growth and new communities to Fairfax. In order to respond to the community’s needs, additional volunteer fire stations were created. In 1954, the Fire Marshal’s Office was established and a Fire Administrator was hired to oversee the volunteer stations. Additionally, the first formal training school for new firefighters was created. The training program would take another leap forward in 1965 with the opening of the Fairfax County Fire Department’s Training Academy and again in 2014 with the expansion of the Training Academy.



Throughout its history, the Fairfax County Fire and Rescue Department has been on the forefront of firefighting techniques, training, and technology. In 1970, the department was the first fire department in the nation to adopt the Field Incident Reporting Evaluation System (FIRES) based on the National Fire Protection Association (NFPA) Standard 901. It continued to expand its services by establishing the Emergency Medical Services (EMS) Division in 1971 and implementing the first EMS Plan for advanced life support five years later.

December 1987 marked the first international deployment of the department’s Urban Search and Rescue (US&R) Team under an agreement with the United States Agency for International Development and the Office of Foreign Disaster Assistance (USAID/OFDA). The team was sent to Soviet Armenia, at the request of the federal government, following an earthquake. The team, now known as Virginia Task Force 1 (VA-TF1), would go on to numerous deployments, including the Philippines (1990), Oklahoma City (1995), Atlanta (1996), Nairobi (1998), Turkey (1999), Haiti (2010), Japan (2011), and Nepal (2015).

In November 1989, the department made strides in the investigation and detection aspects of firefighting when the Fire Prevention Division established the first canine accelerant detection program in the Washington Metropolitan area. The first canine for this program was a black Labrador Retriever named "Ebby" who could detect 17 different accelerants. In order to better serve the citizens of Fairfax County, the Board of Supervisors authorized the Fire and Rescue Department to establish a Hazardous Materials Services Section within the Prevention Division in January 1995.

Knowing that part of maintaining a successful department is the physical and mental well-being of its firefighters and personnel, the department opened its Occupational Health Center in May 1997. The new center consolidated the services required for maintaining firefighter medical standards.

2015 hailed a landmark year for the department. In July, Fairfax County hosted the World Police and Fire Games bringing 9,000 athletes from over 70 countries to the area. The Fire and Rescue Department played an instrumental role in ensuring the games were an immense success. In October, the department took another step forward in its constant drive to improve and received an ISO Class 1 Rating.



Today, the Fairfax County Fire and Rescue Department responds to more than 100,000 emergency responses every year. Approximately 1,400 uniformed members, 400 volunteers, and 164 civilian personnel protect over 1.3 million people every day. The department continuously strives to meet the changing needs of citizens and visitors to Fairfax County with an overall goal of Preventing the 911 Call.

FAIRFAX COUNTY FIRE AND RESCUE DEPARTMENT TODAY

The Fairfax County Fire and Rescue Department (FCFRD) currently operates 38 fire stations. Fire stations are staffed full-time by County personnel with supplemental services provided by volunteers. The department operates from an all-hazards platform and serves Fairfax County and its residents by suppressing fires and providing advanced life support, pre-hospital emergency medical care, rescue operations (i.e. searching for and rescuing persons who become trapped in fires, and extrication from vehicle accidents), and emergency planning. Additionally, FCFRD provides special operations services, including hazardous materials response, technical rescue (i.e. swift water rescue, building or trench collapse, high angle or rope rescue), and marine operations (i.e. water rescue, boat fires, fuel spills) on the lower Potomac and Pohick Bay.

FCFRD's Fire Marshal's Office investigates fires, bombings, and hazardous material releases. The department supports regional, national, and international emergency response operations during disaster situations through the Urban Search and Rescue (USAR) Team (VA-TF1), the National Capital Region Incident Management Team, and other response groups. The USAR Team is one of only two teams in the United States federally sponsored for international disaster response.

FCFRD also provides critical non-emergency services to prevent the 911 call, such as educating the public on fire and personal safety issues, providing public information and prevention education, and enforcing fire prevention and life safety codes in all public buildings. In late FY 2013, FCFRD initiated a countywide community outreach program titled *Safety in Our Community* (SIOC) which involves fire personnel canvassing neighborhoods to check for and install working smoke alarms and deliver fire and life safety information. In FY 2014, the SIOC program was extended to include Wellness in Our Community (WIOC) which involves fire personnel providing presentations and information about life safety initiatives to senior centers and assisted living facilities.

FCFRD operates a number of facilities to ensure personnel are trained and prepared to perform the department's mission. The Fire and Rescue Training Academy provides firefighter, rescue, and emergency medical training in addition to conducting citizen emergency response training. Furthermore, two apparatus shops are staffed to ensure emergency response vehicles are safe and service ready.

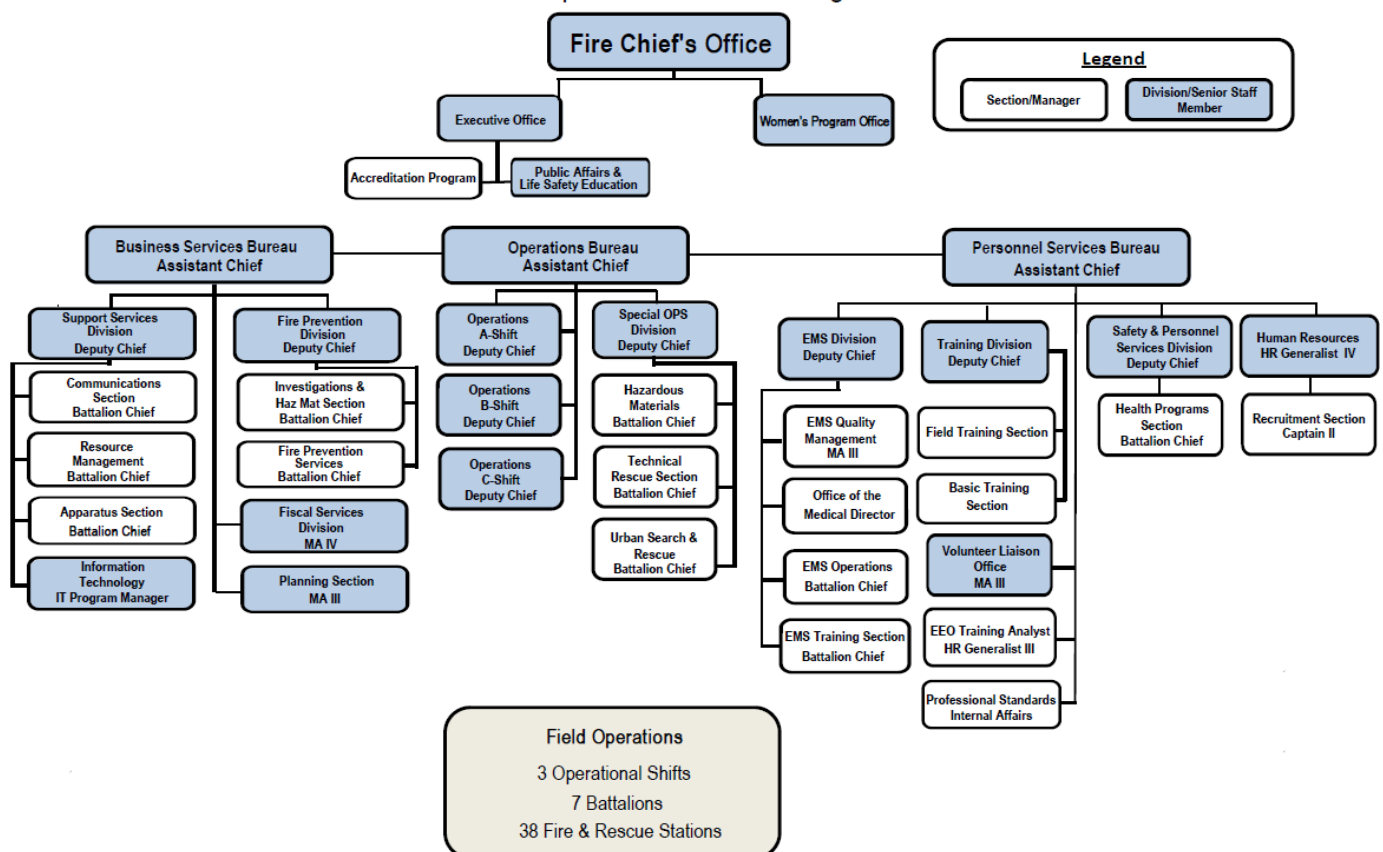
FCFRD actively engages at local, regional, and national levels to meet the challenges of emergency response and prevention. Robust life safety education programs, concentrated enforcement of fire prevention codes, and operational personnel dedicated to protecting lives are instrumental in the County maintaining a low fatality record. Within the region, FCFRD has built collaborative relationships with surrounding localities and organizations necessary for responding to emergency incidents regardless of jurisdictional boundaries and across public safety disciplines.

Despite high demands for emergency services (over 97,000 incidents in FY 2016) and tightened financial resources, FCFRD has maintained its ability to meet core responsibilities while striving

to remain on the cutting edge of safety and technological advancements. To implement initiatives, the department continually seeks alternative funding sources. During FY 2016, FCFRD was awarded in excess of \$14.3 million in grant funds. Grant funding is used to support USAR personnel within VA-TF1, purchase personal protective equipment and emergency response vehicles, and support firefighter training and education.

FCFRD is dedicated to being the best community-focused fire and rescue department and ensuring a safe and secure environment for all residents and visitors. To successfully meet challenges posed by increasing urbanization and a more densely populated response area, FCFRD will continue to be progressive in efforts to achieve economies of scale through regional cooperation, seek out innovative methods for keeping pace with technology, sustain programs to maintain a healthy workforce, and adjust staffing configurations to meet the needs of future growth in Fairfax County.

Fire and Rescue Department Functional Organization Chart*



*Organization chart under review with County Human Resources.

(07/18/2017)

Cost Centers

The four cost centers of the Fire and Rescue Department are Bureau of the Fire Chief, Operations Bureau, Business Services Bureau, and Personnel Services Bureau. The cost centers work together to fulfill the mission of the department and carry out key initiatives for the fiscal year.

Fire Chief's Office: The Fire Chief's Office manages and coordinates all aspects of the Fire and Rescue Department, including directing overall policy and the planning and management of the department. This bureau also includes the department's Public Affairs and Life Safety Education Section, Security Intelligence Liaison, Accreditation Manager, and Women's Programs.

Operations Bureau: The Operations Bureau is composed of the Field Operations Division, Emergency Medical Services Administration Division, and Special Operations Division. The goal of the Operations Bureau is to save lives and protect property by providing emergency and non-emergency responses to residents and visitors of Fairfax County. The Operations Bureau operates on three separate 24-hour rotation shifts. Each shift is led by a Deputy Fire Chief. The County is geographically separated into seven battalions, each managed by a battalion management team of a Battalion Fire Chief and EMS Captain. Fire suppression personnel and paramedics work in tandem to ensure the highest level of safety and care for residents and visitors of Fairfax County.

Business Services Bureau: The Business Services Bureau consists of the Fire Prevention Division, Fiscal Services Division, Planning Section, and Support Services Division. Business Services functions are critical to ensuring the Operations Bureau has the resources needed to respond to emergency incidents.

Personnel Services Bureau: The Personnel Services Bureau includes the Health, Safety and Wellness Division, Human Resources Division, Training Division, Emergency Medical Services Division, and Volunteer Liaison's Office. This bureau strives to provide a representative work force through equal employment opportunity, active recruitment of qualified applicants and volunteers, basic training, professional certifications, and continuing education.

Financial

- Fairfax County Assessed Valuation (FY2017) \$233,373,141,270
- Fairfax County Fire and Rescue Department Budget (FY2018) \$203,361,036

Each year, Fairfax County government prepares and approves an annual budget in compliance with sound financial practices, generally accepted accounting principles, and the provisions of the Code of Virginia which control the preparation, consideration, adoption, and execution of the budget. As required by the Code of Virginia (§15.2-2503), the County Executive must submit to the County Board of Supervisors a proposed budget on or before April 1 of each year for the fiscal year beginning July 1. All local governments in the Commonwealth of Virginia must adopt a balanced budget no later than July 1 as a requirement of state law. A budget is balanced when projected total funds available equal total disbursements, including established reserves. The Advertised Budget Plan is the annual budget proposed by the County Executive for County general government operations for the upcoming fiscal year, which runs from July 1 through June 30.

The County's magisterial functions and accounting system are organized and controlled on a fund basis. Each fund is considered a separate accounting entity, with operations accounted for in a separate set of self-balancing accounts that comprise assets, liabilities, fund equity, revenues, and expenditures or expenses as appropriate. The largest fund in the General Fund Group (General Fund) is the County's primary operating fund and is used to account for all revenue sources and expenditures which are not required to be accounted for in other funds. Revenues are derived primarily from real estate and personal property taxes as well as other local taxes, federal and state distributions, license and permit fees, charges for services, and interest from investments.

For reporting purposes, all agencies and departments in the General Fund are grouped into "program areas." A program area is a grouping of County agencies or departments with related countywide goals. Under each program area, individual agencies and departments participate in activities to support the program area goals. The Public Safety Program Area, for example, includes the Fire and Rescue Department, among others.

According to the Code of Virginia, the Board of Supervisors must approve a tax rate and adopt a budget for informative and planning purposes no later than the beginning of the fiscal year on July 1. Following extensive review, deliberation and public hearings to receive input from County residents, the Board of Supervisors formally approves the adopted budget plan typically in late April. The County's budget serves as the documentation of the financial, policy, and service decisions that the Board of Supervisors has authorized for the fiscal year. The Adopted Budget Plan documents the annual funding level authorized by the Board of Supervisors for the Fire and Rescue Department.

Service Area Description

The land that is now Fairfax County was part of the Northern Neck Proprietary granted by King Charles II in 1660 and inherited by Thomas Fairfax, Sixth Lord Fairfax of Cameron, in 1719. The County itself was formed in 1742 from Prince William County. The 2016 census population estimate for the County is 1,130,875, an approximately 5% increase since 2010. Fairfax County comprises about 405 square miles (with 395 being land area) located directly across the Potomac River from Washington D.C.

Most of the Fairfax County lies in the Piedmont region, with rolling hills and deep stream valleys such as Difficult Run and its tributaries. West of Route 28, the hills give way to a flat, gentle valley which stretches west to the Bull Run Mountains in Loudoun County. Elevations in the County range from near sea level along the tidal sections of the Potomac River in the southeast portion of the County to more than 500 feet (150 m) in the Tysons Corner area.

Fairfax County is bounded on the north and southwest by the Potomac River. Across the river to the northeast lays Washington D.C. and to the north, Montgomery County and Charles County, Maryland. Across the Potomac River to the southeast is Prince George's County Maryland. Fairfax County is partially bounded on the north and east by the cities of Falls Church, Alexandria and Arlington County. The western border is shared with Loudoun County and the southern border with Prince William County, Virginia.

Federal government growth leading up to and post-World War II saw a large increase in population developing the suburban aspect of the county. The government-driven economy and technology have increased the business community dramatically and are now home to seven Fortune 500 companies. Fairfax was the first U.S. County to reach a six-figure median household income and has the second-highest median household income of any local jurisdiction in the United States after neighbor Loudoun County, Virginia.

The County is home to the headquarters of intelligence agencies such as the Central Intelligence Agency, National Geospatial-Intelligence Agency, and National Reconnaissance Office, as well as the National Counterterrorism Center and Office of the Director of National Intelligence

The County has three incorporated towns – Clifton, Herndon, and Vienna – located within Fairfax County borders that receive services from the Fire and Rescue Department. The County has a diverse population with approximately 32.5 percent foreign-born residents and 36.4 percent of people aged 5 or older speak a language other than English at home. This includes over 130 different languages.

The Fairfax County Public School (FCPS) system is the tenth largest school district in the nation with 2016 enrollment of about 186,714 students. FCPS includes 139 elementary schools, 23 middle schools, 3 secondary schools, 22 high schools, 2 alternative high schools, and 7 special education centers, with 48 alternative programs and learning centers. Major colleges include George Mason University and Northern Virginia Community College.

Fairfax County Demographics

Working and Living

Businesses	115,917
Jobs	590,000+
I.T. Jobs	142,000+
Unemployment Rate (age 20-64)	7.5%
Median Housing Value	\$501,200
Median Home Size	1,589 Sq. Ft.
Average Monthly Rent	\$1,687
Households	403,934

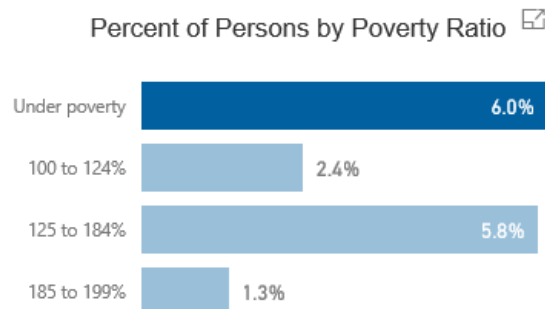
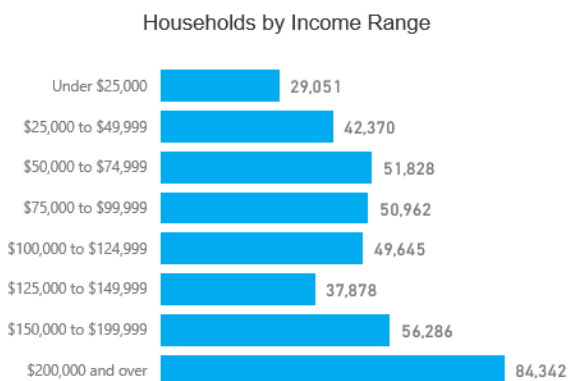
Housing by Type	Number of units
Total Housing Units	413,746
Single Family	195,273
Town House/Duplex/Triplex	100,354
Multi-Family 1-8 Stories	99,591
Multi-Family 9+ Stories (High-rise)	18,528

Top Employers

#	<u>Employer</u>	<u># of Employees</u>
1	Fairfax County Public Schools	24,590
2	United States Government	23,586
3	Fairfax County Government	12,070
4	Inova Health System	7,000 – 10,000
5	George Mason University	5,000 – 10,000
6	Booz Allen Hamilton	4,000 – 6,999
7	Federal Home Loan Mortgage Corporation	4,000 – 6,999
8	General Dynamics	4,000 – 6,999
9	Northrop Grumman	4,000 – 6,999
10	SAIC	4,000 – 6,999

People

Population:	1,125,385
Gender:	Male 49.5%
	Female 50.5%
Age:	20-Under 26.4%
	21-64 62.5%
	65-Over 11.1%
Race:	White, Not Hispanic 52.75%
	Black, Not Hispanic 9.01%
	Asian/PI, Not Hispanic 18.39%
	Hispanic/Latino 15.98%
	Other, Not Hispanic 3.86%
Persons with High School Education	92.0%
Persons speaking non-English at home	37.7%
Median Household Income	\$112,552
Persons in Poverty	6.0%



Demographic information taken from the Fairfax County GEO-Portal

Surrounding Communities

The County of Fairfax County is 1 of 24 agencies that make up the Metropolitan Washington Council of Governments (MWCOC) comprises 24 local governments in the Washington Metropolitan area, as well as area members of the Maryland and Virginia state legislatures, the U.S. Senate, and the U.S. House of Representatives. The MWCOC is an independent, nonprofit association where area leaders address regional issues affecting the District of Columbia, suburban Maryland and Northern Virginia. Its membership is comprised of approximately 300 local, state and federal elected officials. It was founded in 1957 and formally incorporated on May 28, 1965. On December 5, 2005, the Fairfax County Board of Supervisors adopted a resolution to enter into a National Capitol Region Mutual Aid Agreement for all fire departments. This agreement established the regional framework of response across the District of Columbia, two states, a number of cities and federal military installations. This agreement would influence the fire and emergency services departments in Northern Virginia to enter into the Northern Virginia Emergency

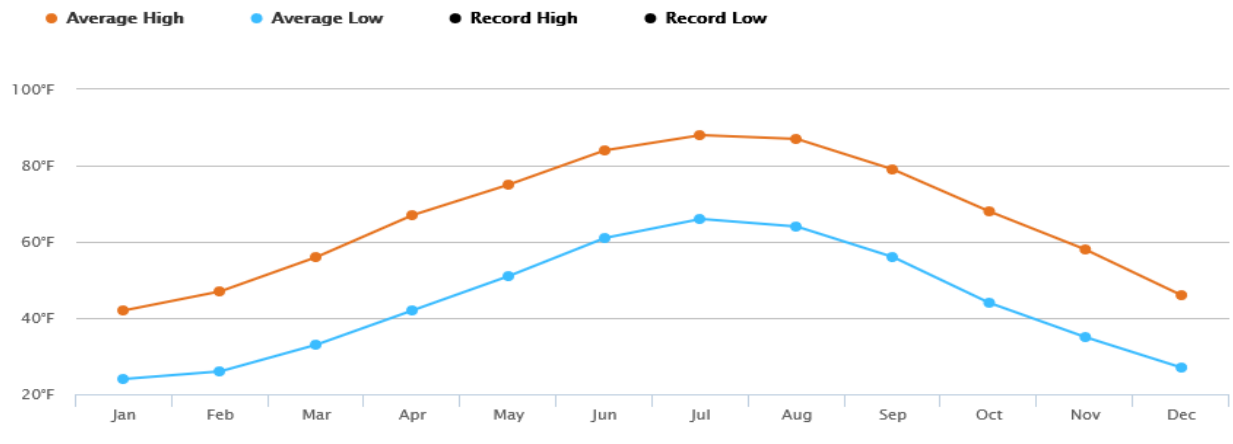


Services Mutual Response Agreement which created a two tiered system of automatic aid within that region. The MWCOC has population as reported in 2014 of 6,097,684 with 1,130,234 living in Fairfax County. The next largest population base is Montgomery County, Maryland, on its northern border with a population of 1,040,116. Prince George's County, Maryland, is on the western border with a population of 909,535; Prince William County, Virginia on the southern border with a population of 451,721; and Loudoun County, Virginia to the west with 375,629 residents. Fairfax County is adjacent or surrounds a number of smaller cities and counties and operates under an automatic aid or regional resource agreement providing seamless emergency response utilizing GPS-based Automatic Vehicle Location (AVL).

Weather

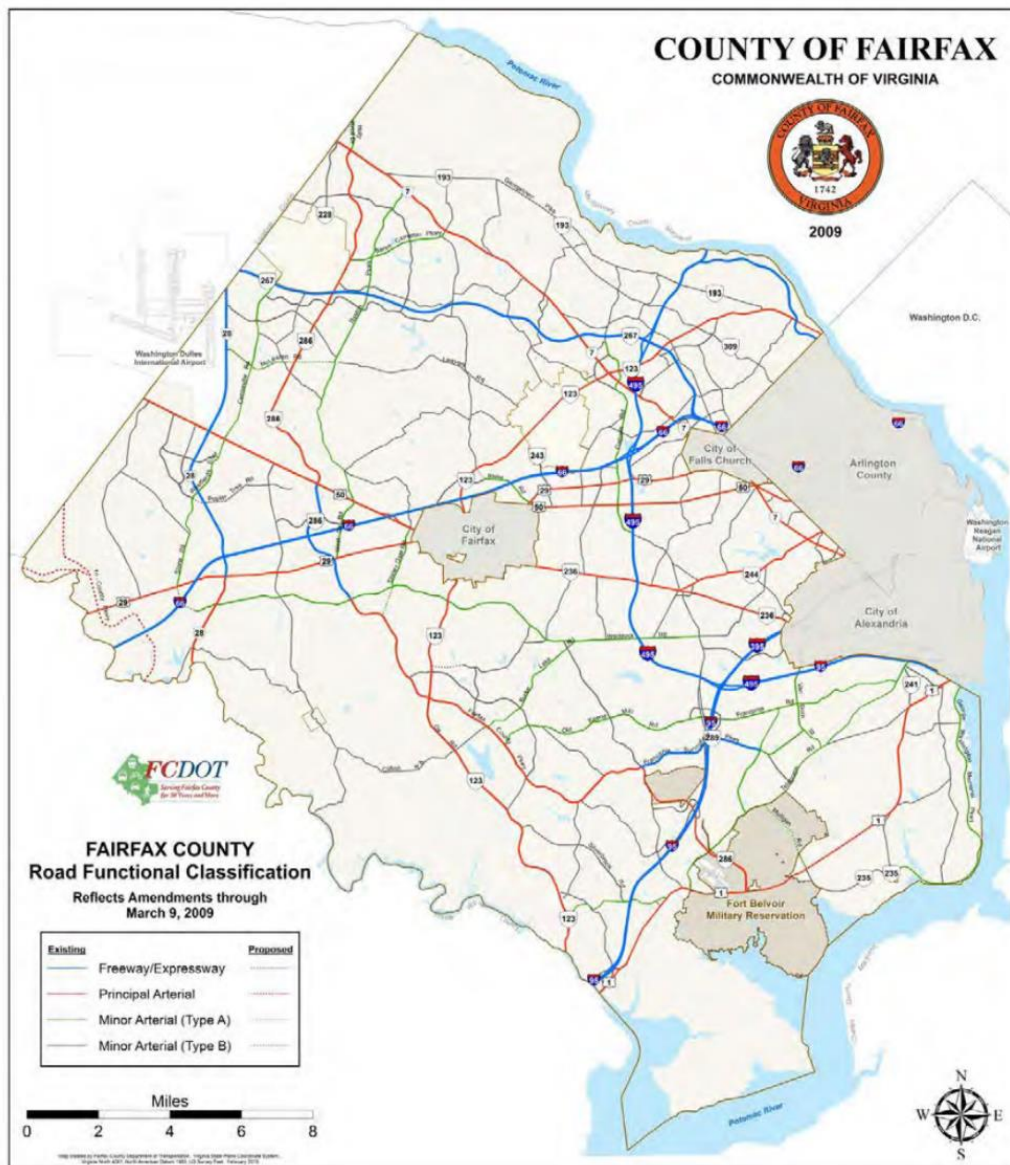
Month	Temp. (min)	Temp. (max)	Temp. (avg)	Precipitation
January	3°F	73°F	37°F	2.6"
February	7°F	73°F	38°F	2.0"
March	9°F	86°F	47°F	2.5"
April	28°F	93°F	58°F	4.4"
May	34°F	95°F	65°F	4.7"
June	47°F	101°F	74°F	6.6"
July	54°F	100°F	78°F	5.3"
August	55°F	102°F	78°F	2.3"
September	43°F	93°F	70°F	3.2"
October	28°F	94°F	59°F	5.6"
November	21°F	75°F	49°F	3.2"
December	12°F	75°F	39°F	3.0"

Monthly Average/Record Temperatures



Transportation Networks

**See Fairfax County Comprehensive Plan-Transportation Appendix*



Roadways -- Fairfax County Comprehensive Plan, Transportation Appendix has established the Roadway System Functional Classification which consists of four primary sub-groups. Sub-grouping consists of Freeway and Expressways, Other principal arterials, Type A minor arterials, and Type B minor arterials.

The major freeways and expressways are the Capital Beltway (I-495) running from the American Legion Memorial Bridge on the northern border to Alexandria city limits and is a major controlled access freeway with added toll lanes that when combined with this roadway in Maryland encircle the Nation's Capital, Washington DC. The Shirley Highway I-95 and I-395 running from the Alexandria city limits to the Prince William County line is the largest north/south controlled access

freeway leading to and from Washington DC within Fairfax County. I-66 is the major east/west controlled access freeway through the County from the Arlington County line to the Prince Williams County line in the northern 1/3 of Fairfax County. The Dulles Airport Access Road combined with the Dulles Toll Road run east/west through Fairfax County from I-66 to the Dulles Airport on the western border. Other major freeways and expressways are Fairfax County Parkway, Franconia-Springfield Parkway, George Washington Memorial Parkway, and State Route 28. Other principal arterials and minor arterials can be found in the Tables section.

Waterways -- the Potomac River borders Fairfax County on the northern and western borders. The river headwaters begin in West Virginia and flow into the Chesapeake Bay. The lower Potomac which begins approximately 1 mile south of Washington DC. There are several bays on the lower Potomac within the Fairfax County response area. The Occoquan River is a tributary river of the Potomac River. The Occoquan River is the southern border of Fairfax County separating it from Prince William County. The lower end of the river has the last of three dams on the river which forms the Occoquan Reservoir which is owned and operated by the Fairfax Water Authority. The Fairfax County Comprehensive Plan, 2013 Edition, lists access points to the waterways surrounding Fairfax County as:

Boat Ramps	22
Marinas	12
Piers	214

Rail -- Fairfax County consists of both light rail commuter (Metro) and heavy rail (VRE and Amtrak) which operates both commuter train and industrial.

The Washington Metropolitan Area Transit Authority (WMATA, known as Metro) operates the electric light rail in the (MWCOC) region. Three light rail lines operate within Fairfax County on the Blue Line, Orange Line, and the newest Silver Line. Currently 10 Metro stations are operational within the county with 5 more due for completion by 2020 which will connect Washington Dulles International Airport to the system. There are three types of stations (above grade, surface, and below grade) within Fairfax County. FCFRD assigns one full time position to the regional WMATA dispatch center.

Heavy Rail right-of-ways within Fairfax County are owned and operated by the CSX Corporation or Norfolk Southern Railroad. The three primary commuter trains are operated by Amtrak, VRE Commuter Rail Service and MARC Commuter Rail. Commercial trains are operated by the right-of-way owners of the rail.

Air -- While there are no major airports within Fairfax County, there are two commercial and one military base operating adjacent to or on military property within the County border. Washington Dulles International Airport which is located on the western border of Fairfax County has an 11,500 foot runway operating commercial traffic. Ronald Reagan National Airport is operated within Arlington County and lies within a few miles of the Fairfax County border and operates a

7,169 foot runway operating commercial traffic. Fort Belvoir military base operates the Davison Army airfield with a 5,618 foot runway operating military and government traffic.

Additional Infrastructure

Water

While Fairfax County has neither direct administrative nor budgetary control over water suppliers, the importance of water facilities to county planning and daily life is recognized. The Board of Supervisors has entered into an agreement with Fairfax Water which requires Board approval of all capital projects undertaken by Fairfax Water. Fairfax Water projects are included in the County Capital Improvement Plan (CIP) and represent the program guided by the objectives of the Comprehensive Plan and endorsed by the Board of Supervisors. Additional information can be found in Fairfax Water's 2014 Capital Improvement Program, which is available directly from Fairfax Water. http://www.fcwa.org/about_us/Fairfax%20Water%20-%20Strategic%20Plan%202020.pdf

The principal sources of water for Fairfax Water are the Occoquan Reservoir and the Potomac River. The Occoquan Reservoir is impounded by a gravity-type concrete dam across the Occoquan River, a few miles upstream of its confluence with the Potomac River. The dam was constructed in 1957. The drainage area of the Occoquan River above the dam is approximately 595 square miles. The dam impounds about 8.3 billion gallons of water when filled to the crest of the dam at Elevation 122 feet, mean sea level. The present Occoquan Reservoir supply has a safe yield of about 75 million gallons per day (MGD).

Treatment of water from the Occoquan Reservoir is provided by the 120 million gallons per day (MGD) Frederick P. Griffith Jr. Water Treatment Plant in Laurel Hill, placed in service in 2006. This facility applies various chemicals for coagulation, the control of taste and odors, fluoridation and disinfection. The Griffith Treatment Plant replaced the Lorton and Occoquan Treatment Plants.

Construction of the intake structure, raw water pumping station and initial phase of the Corbalis Water Treatment Plant commenced in 1978 and was placed into operation in 1982. During 2008, construction of Stage III was completed, bringing total treatment capacity for the facility to 225 MGD. Facilities are available for applying various chemicals for coagulation, control of taste and odors, fluoridation, and disinfection.

On January 3, 2014, Fairfax Water purchased the water systems previously owned and operated by the cities of Falls Church and Fairfax. As part of the agreement, Fairfax Water acquired Falls Church's existing water supply contract with the Washington Aqueduct. Up to 30 MGD of finished water from the Dalecarlia Water Treatment Plant can be supplied.

Twenty-six booster pumping stations are located within the distribution system to provide adequate pressure. A total of 78 million gallons (MG) of distribution system storage is provided at 20 locations throughout Fairfax County and the City of Fairfax; an additional 39 MG of treatment

plant clearwell storage is also available between the Corbalis and Griffith facilities. There are approximately 4,000 miles of water main up to 54 inches in diameter in the system.

Solid Waste

The County operates several facilities: the Solid Waste Transfer Station at the I-66 Solid Waste Management Complex in Fairfax, VA; the Energy/Resource Recovery Facility (E/RRF) at the I-95 Solid Waste Management Complex in Lorton, VA; and the Newington Collection Operations Facility.

The I-95 Solid Waste Management Complex includes the E/RRF, the closed portion of the I-95 landfill, the operating portion used for ash disposal, and the recycling and disposal center providing services to residents and businesses and is located in Lorton, VA. The I-95 landfill is used solely for the disposal of ash generated from the combustion process employed at the E/RRF. This landfill unit is also used to dispose of ash generated by a waste-to-energy unit that provides disposal service to the City of Alexandria and Arlington County and ash generated from the combustion of bio solids (sewage sludge) at the Noman Cole Jr. Pollution Control Plant operated by the Fairfax County Department of Public Works and Environmental Services

In addition, the I-95 Waste-to-Energy Facility is located on the site of the I-95 Landfill Complex. This facility receives the trash generated in Fairfax County and converts it to energy through a state-of-the-art combustion facility. The facility is owned and operated by Covanta Fairfax, Inc.

The I-66 Solid Waste Transfer Station includes the Transfer Station where waste is consolidated into tractor trailers to be transferred to the E/RRF, the I-66 landfill and the recycling and disposal center providing services to residents and businesses and is located in Fairfax, VA. The I-66 Transfer Station has been operational since 1983. Trash collection companies operating in the County deliver waste to the Transfer Station where it is removed from the collection vehicles and is transferred into tractor-trailer trucks. It is then transported to the I-95 E/RRF in Lorton for disposal.

The Newington Collection Operations Facility provides for the rolling stock and appurtenant equipment needed for the collection of refuse and recycling to be staged and stored for daily use. The Newington Refuse Collection Complex currently houses the County's collection fleet along with administrative facilities for personnel.

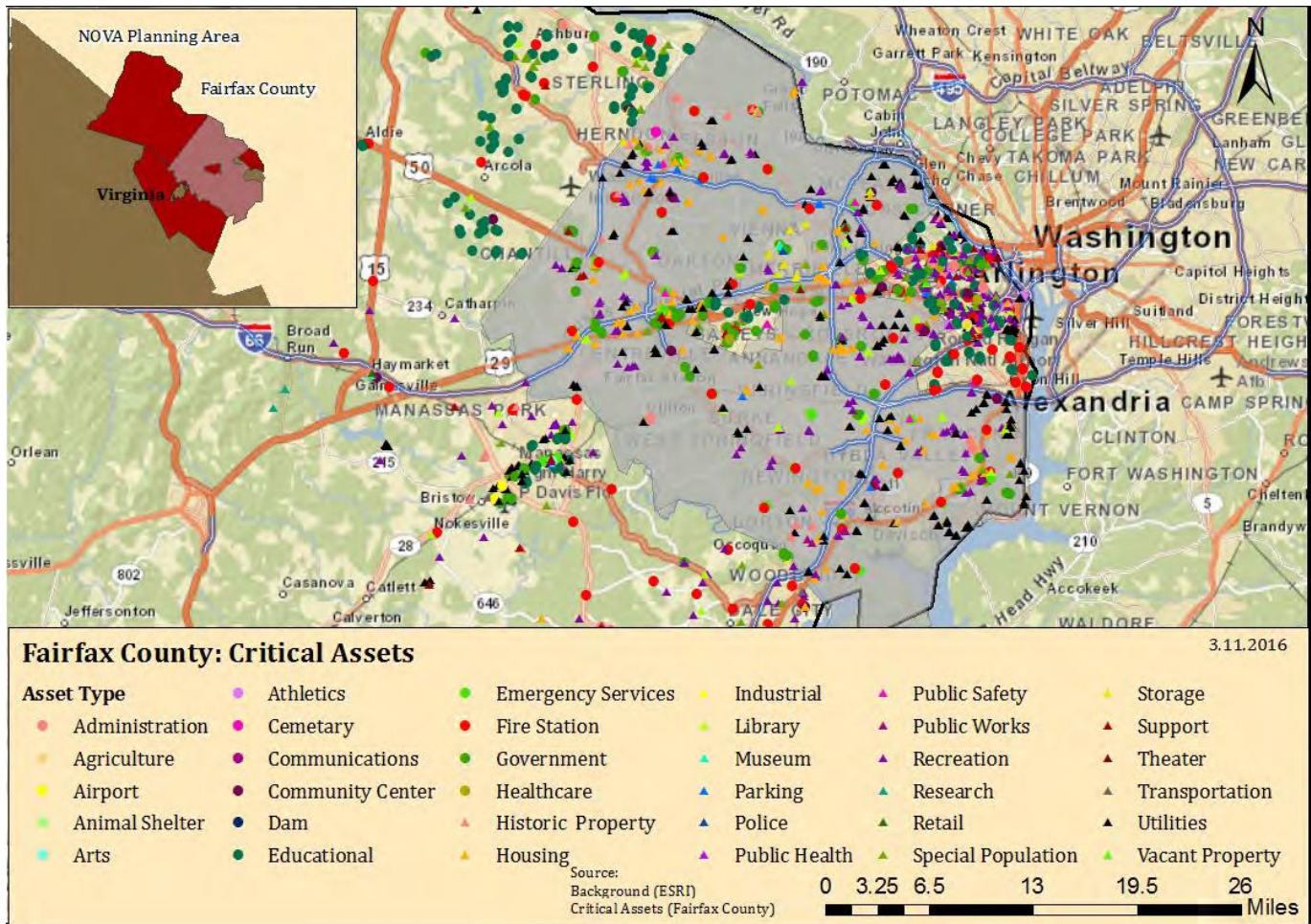
Electric

Most residents within Fairfax County are served by Dominion Virginia Power. Residents in portions of Centerville and Clifton (on the western end of Fairfax County) may receive electric service from the Northern Virginia Electric Cooperative. In addition to providing commercial and residential service, both companies maintain street lights in the county.

Natural Gas

Most residents within Fairfax County are served by Washington Gas. Residents in portions of Chantilly and Herndon (on the northern end of Fairfax County) may receive natural gas from Columbia Gas of Virginia. Washington Gas has two major pipelines crossing Fairfax County and operates a large underground storage facility capable of holding 11,000,000 gallons of liquid gas. This facility is in Demand Zone 427.

Fairfax County Critical Infrastructure



2017 Northern Virginia Hazard Mitigation Plan

Challenges

Traffic -- Fairfax County traffic experiences significant congestion in the region. Two major arterials I-395/I-95 and I-66 into and out of Washington move traffic north/south and east/west across the County. The Capital Beltway (I-495) connects both of these major arterials with Maryland on two borders.

Terrorism -- Close proximity to the nation's capital and numerous governmental agencies and military bases within Fairfax County make it an ongoing target of extremist groups both domestic and foreign. This ongoing threat assessment brings increased and random security measures that

at times can hinder normal operations. FCFRD assigns one full time position to the Northern Virginia Region Intelligence Center.

1.2 Risk Assessment Methodology

FCFRD recognizes that hazards exist within our community which brings with it an inherent risk to the citizens and visitors of that community including their property and the environment itself. Hazards are the causes of danger and peril in the community and risk quantifies the degree of potential danger that the hazard presents. The process for assessing risk within the community requires a logical, systematic, and consistent methodology that can be utilized and replicated over the entire community from year-to-year. FCFRD assesses risk created by identified hazards to determine potential adverse impact for Emergency Medical Services, Fire, Hazardous Materials event, Technical Rescue and other service demands.

It is important to understand that FCFRD assesses the risk to our community using a methodology that utilizes U.S. Census block data and Geographic Information System (GIS) parcel data to recognize increase or decrease risk factors based on topographical inputs as well as structure types and the presents of populations, protection systems and ongoing risk reduction efforts. While the risk is assessed using stable and known data source features such as a census tract, it is managed at the Service Demand Zone (station First Due) level for deployment and administration purposes. FCFRD utilized the resources of the technical assistance and information resource division at the International Association of Fire Fighters to develop its risk assessment methodology. Once the methodology was completed, the data was tested and transferred to FCFRD to develop performance charts and further analyze agency standards of cover.

FCFRD utilizes three factors when assessing risk:

- Probability or likelihood of an incident occurring
- Consequence (magnitude) of an incident on the community
- Impact of an incident on the FCFRD response system and its ability to provide ongoing services to the remaining areas for service demand

Probability -- defines the frequency of a particular type of incident.

The probability of incidents occurring in a given census block is related to the expected number of incidents in that census block. By using the Computer-Aid Dispatch (CAD) data assembled by Fairfax for the period 7/1/2014 to 6/30/2017 and the demographic and physical characteristic of the census blocks where those incidents occurred, a statistical regression can be used to predict the future number of incidents. The predicted number of incidents is used as a proxy for the probability of a particular type of incident in each census block. Once these predictions are made, the census blocks receive a ranking (low, moderate, high) according to the following procedure:

- the census blocks are sorted by number of predicted incidents, from the lowest to the highest;

- the sum of the predicted incidents of all the census blocks defines the total number of incidents;
- the cumulative sum of the predicted incidents of each census block, starting from the census block with the lowest number of predicted incidents and proceeding towards the highest, defines the risk ranking: *low* for census blocks whose sum of predicted incidents is lower than 33% of the total incidents, *moderate* for blocks whose sum of predicted incidents is greater than 33% and less than 67% of the total, and *high* for the remaining census blocks.

Consequence -- is the measure of the outcome of a particular type of incident on the community.

- Determine variable to assess the level of consequence on the community for each incident group. Risk coefficients were created to examine each consequence variable. The following variables are used for the four incident types:
 - EMS: ALS vs BLS incident (reported in CAD). FCFRD responds with a crew of 6 members to ALS incidents and 4 members to BLS incident. This 6 to 4 ratio (that is, 1.5) is used to estimate the consequence score. The number of ALS incidents is multiplied by 1.5 when calculating the total consequence score for each first due district.
 - Fire: Risk of death and injuries based on age, gender, race, and structure type as well as damage to property based on structure type and property value. The estimated number of death and injuries is based on the following NFPA studies: *Characteristics of Home Fire Victims* and *Fires by Occupancy or Property Type 2010 - 2014*
 - Haz Mat: property value (based on parcel data).
 - Rescue: medical transport (reported in CAD).
- Determine the risk rank for each incident type at the block group level and then evaluated at the fire box and first due level. Once the variables are quantified (eg. number of deaths per census block for fire incidents) the risk is ranked following a procedure similar to the one for probability.

Probability and Consequence -- identifies the risk based on the probability of an incident and the consequence on the community.

- Total risk rank calculated based on the probability and consequence score of each block group and then evaluated at the firebox and first due level. The probability and consequence risk rank were evaluated at a 1 to 1 ratio. The outcome is the risk rank in Fairfax County.

Department Performance (Impact)

This section will evaluate the department's current response capabilities as well as the department's response metric to past incidents.

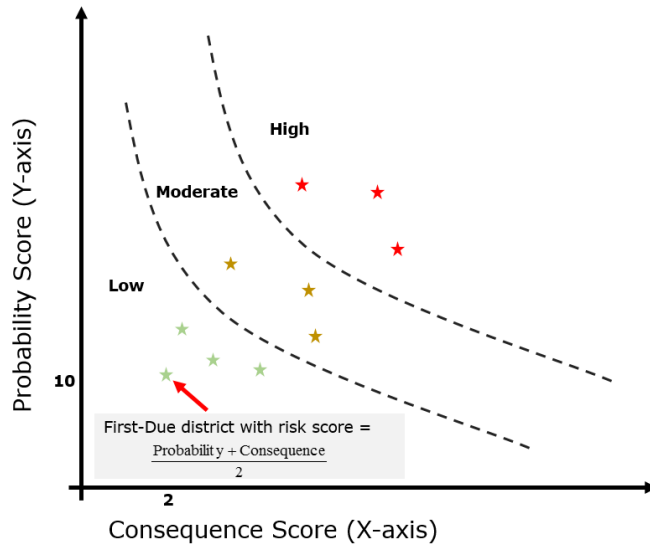
- Current response capabilities per first due district. (4-Minute response capabilities, 8-Minute response capabilities, NFPA 1710 Low- Medium- High Alarm Response).
 - Using ESRI ArcGIS Network Analysis, computer modeling was used to determine the department's ability to meet several NFPA 1710 response standards. Findings show the percent of coverage in each first due district per response metric. Only FCFRD daily-staffed apparatus were used to evaluate coverage
- Average and 90th percentile response time (dispatch to on scene) for first arriving unit on scene for EMS incidents and Fire, Rescue, and HazMat incidents for each First Due district.
 - FCFRD response time standards state the first arriving apparatus to an EMS incident should be on scene within 300 seconds, while Fire, Rescue, or HazMat incidents the first arriving apparatus should be on scene within 320 seconds.
- Average and 90th percentile of the time it took the Effective Response Force (ERF) to assemble on scene.
- Number of personnel estimated to respond into each fire-district based on incident type.
 - Count of incidents, apparatus, and personnel estimated to respond into each first due district.

FCFRD assessed risk along four hazard lines using a standardized methodology:

- The risk assessment is GIS parcel and census clocks based when considering structure and populations.
- The model uses the following process to calculate the overall risk for each category:

Step 1: The Probability and Consequence ranking obtained as described above for each first due district is associated with a numerical score: 1 for *low*, 2 for *moderate*, and 3 for *high*. The probability and consequence scores are averaged with a 1:1 weight to obtain a single score:

$$\text{Probability and Consequence (combined score)} = \frac{\text{Probability Score} + \text{Consequence Score}}{2}$$
 - Step 2: The Probability and Consequence combined score is ranked as *low*, *moderate*, and *high*, following again the cumulative sum method already used separately for Probability and Consequence and described above. An approximate example of the resulting ranking, for each First Due district, is shown in the figure below.



- Step 3: The impact variable is kept separated and ranked using the cumulative sum method.

The two final products of the risk assessment process are a combined probability-consequence score and an impact score for each first due district and for each risk category. FCFRD categorizes the risk based on the combined probability-consequence score, to place the risk in the *low*, *moderate* or *high* category, and uses the information from the impact score to adjust the concentration and distribution of resources.

Risk Assessment Data

The following input factors and information layers were used when applying the risk assessment methodology. Each factor was weighted against one or all of the hazards within the three categories: consequence, impact, or probability in determining risk by planning zone.

Data Acquisition

- Computer Aid Dispatch (CAD) 7/1/2014 to 6/30/2017 provided by FCFRD
- Fire box and first due boundaries provided by FCFRD
- Building footprint, with building type provided by FCFRD
- Parcel data provided by FCFRD (land/property value)
- Demographic data from the American Community Survey (Gender, Age, Race, Education, Income/Poverty, Housing Characteristics) at the census block group level
- Physical Data (transportation network, utility lines, river, and floodplains)

Community Safety and Education

The overarching goal of the FCFRD is **PREVENTING THE 911 CALL**

The FCFRD operates a Life Safety Education Division that reports directly to the Office of the Fire Chief. The Life Safety Education Division has identified a number of programs that effectively support this goal.

SAFETY IN OUR COMMUNITY

Safety in Our Community (SIOC) is a community-based program. Firefighters go door-to-door within the communities they serve to check homes for working smoke alarms, provide home inspections, and important seasonal fire and life safety information to residents. A door hanger with safety and contact information is left behind when residents are not home.

WELLNESS IN OUR COMMUNITY

Wellness in Our Community (WIOC) is designed to “prevent the 911 call.” The community-based program emphasizes lifesaving subjects, such as carbon monoxide poisoning, File of Life™, and community CPR. WIOC complements and expands the SIOC program.

SIOC/WIOC	
Number of Homes Visited	35,125
Door Hangers Distributed	30,418
File of Life™ Distributed	2,534
Smoke Alarms Installed	3,908

2016 Annual Report

Over 350,000 reported fires occur in homes each year. In the United States, one child is badly burned every four minutes. In many instances these events are preventable. Children are at high risk for injury from fire because they do not understand the potential consequences of fire play. Project S.A.F.E. is our educational program for third graders delivered by firefighters to students in a classroom setting.

EVERY STEP OF THE WAY

Every Step of the Way is a fire and life safety program targeted to the most vulnerable demographics: children and older adults. The program focuses on teacher/parent training and fire safety puppet shows in public schools, private schools, and day care centers. Older adults are taught about fire and life safety topics pertinent to their stage in life, including injury from falls. Additionally, the File of Life™ program allows residents to prominently display medical information to emergency personnel.

JUVENILE FIRE SETTERS PROGRAM

The Juvenile Firesetters Program is an educational intervention program targeted to juvenile fire setters. The program is administered by a nationally certified educator. Participants are referred to the program by court officials, school counselors, law enforcement, fire investigators, or mental health practitioners.

On September 12, 2016, the Fairfax County Fire and Rescue Department launched its newest public safety initiative, the Yellow Dot Program. Participants place a Yellow Dot decal in their vehicle's rear window to alert first responders to check the vehicle's glove compartment for vital medical information.

LIFE SAFETY EDUCATION-Direct contacts	
Preschool Children	23,745
School-Aged Children	9,028
Older Adults 50+	19,837
Juvenile Firesetters	48

2016 Annual Report

Community Fire Protection Systems, Inspections and Plans Review

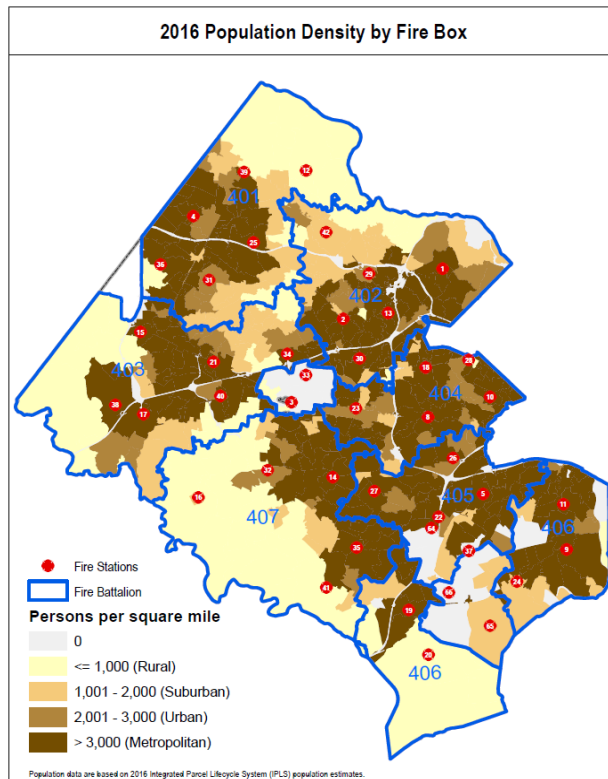
FCFRD operates a Fire Prevention Division that operates under a Deputy Chief and covers Investigations and Fire Prevention. The FCFRD staffs the division with 108 fulltime positions who are trained and certified to enforce a variety of fire prevention regulations. In addition, a fire inspector is on-call after regular business hours to investigate reports of life-threatening or dangerous fire code violations and to respond to buildings with out-of-service fire protection systems to ensure that the systems are repaired and fire protection is maintained. The cumulative efforts of the Fire Marshal help to ensure lower property insurance costs, foster economic development, lower the number and severity of firefighter injuries, and increase the quality of life in Fairfax County.

FIRE PREVENTION SERVICES	
Fire Systems Tests	11,936
Fire Inspections	20,520
Plans Reviewed	10,788

Population categories

The FCFRD divides its service area into 38 Service Demand Zones based on each of the 38 Fire Station administrative First Due areas. When considering community risk assessment the U.S. Census Bureau tracts are utilized and overlaid into the Demand Zones. Population is calculated both by census tract and Demand Zone for risk assessment and standards of cover. Several factors are taken into account when considering population:

- The population of Fairfax County fluctuates daily with the workforce.
- It is understood that population density of each Demand Zone will fluctuate by time of day. This is reflected in data's representing time of day and day of week service demand.
- Fairfax County government still recognizes rural, suburban, urban, and metropolitan population densities, therefore the FCFRD may reflect in mapping and reporting. Reporting of performance against benchmarks and the 90th percentile will reflect CFAI performance chart standards.
- Census populations are based on residential areas, and a census area of high density commercial development without residential areas would calculate as rural population using density only. Because of this, areas may be upgraded based on type of building and land use to better reflect risk. (Example: Demand Zone 429 has population of 19,232 while workforce population is in excess of 150,000 and expected to double in next 15 years).



1.3 Community-Wide Risk (Information from the 2017 Northern Virginia Hazard Mitigation Plan).

It should be recognized that community-wide risk due to metrological events are region-wide events that cross neighboring jurisdictional bounders. During these events, agencies within Northern Virginia operate under automatic aid to provide the closest resource to the service demand.

Flooding

From 1950 through 2015, the National Climatic Data Center received reports of 34 flood events in Fairfax County. Of these events, two were categorized as coastal flood/storm surge events, 6 as flash flood events, 11 were attributed to heavy rain, and the remaining 15 as flood.

Fairfax County was included in Disaster Declaration (DR-1655), which occurred June 23 -- July 6, 2006. A nearly stationary front draped across the area combined with several low pressure systems and produced several waves of heavy rainfall across Northern Virginia over this 5 day stretch. Rainfall totals over this period were in the double digits at several locations. The pinnacle of the flooding occurred on June 26. The VRE commuter line ceased operations and flooding in underground tunnels forced much of the Washington area Metro rail service to close. Numerous roadways across the region were also underwater. Water rescues were needed for motorists that became trapped in floodwaters. In Huntington, flooding-related damages lead to 158 homes being declared uninhabitable due to contamination and lack of utilities.

On June 21 through 24, 1972, Hurricane Agnes entered Virginia as a tropical depression that produced widespread severe flooding. Sixteen inches of rain were recorded in Chantilly in Fairfax County resulting in major flooding of the Potomac River. Peak flows in the Potomac River basin ranged from 2 to 6 times previously known maximums. The Potomac River crested at 15.5 feet, 8.5 feet above flood stage.

Winter Weather

The Northern Virginia region is located in a part of the country that experiences hazardous winter weather conditions, including severe winter storms that bring heavy accumulations of snow, sleet, and freezing rain. On average, the region receives approximately 15 to 21 inches of snow annually. The region's biggest winter storms are typically associated with "Nor'easters." During these events, winds around the storm's center can become intense, building waves that erode the Potomac shoreline and sometimes pile water inland causing extensive coastal flooding and severe erosion. These systems may also produce blinding snowfall that can accumulate to a foot or more or mixed precipitation that may leave a coating of ice. Other types of winter weather systems are more of a nuisance and generally do not cause major damage. Weather systems such as the "Alberta Clipper" (a fast moving storm from the Alberta, Canada region), or a cold front sweeping through from the west, generally do not bring more than a few inches of snow in a narrow 50 to 60-mile-wide band. From 1996 to 2015 Fairfax County recorded 123 winter storm events.

Wind and Thunder Storms

Since severe storms are difficult to predict, it is extremely difficult to determine probability of future occurrence with any degree of accuracy. It can, however, with considerable confidence, based on historical record, be projected that Northern Virginia will continue to experience severe thunderstorms with great frequency – several times a year, in most cases. Based on analysis of previous events in the NCDC database, it appears that those events causing injury, death or damage have occurred on a seemingly random basis with no particular portion of Northern Virginia more likely to experience them than any other.

Tornado

Risk, defined as probability multiplied by impact, cannot be fully estimated for tornadoes due to the lack of intensity-damage models for this hazard. Instead, estimates of the financial impacts of tornadoes can be developed based on historical data contained within the NCDC storm event data. Examination of NCDC data shows that there were 70 tornado events in Northern Virginia between 1950 and December 2015 that caused approximately \$13.6 million in property and crop damages. Loudoun County has recorded more damage than other Northern Virginia jurisdictions due to tornadoes. NCDC data shows that Fairfax County experienced more than \$5 million in property and crop damages since 1950.

Hurricane and Tropical Storm

From 1950 through 2015, NCDC reports describe six occurrences of tropical storms impacting Fairfax County. These tropical storms caused more than \$18 million in property and crop damages, one fatality, and one injury.

Heat Emergencies

While this hazard occurs with some regularity, it is not one with a significant history of causing damages or losses to property in the Northern Virginia region. The risk of exposure and negative health impacts to people, animal, and agriculture are the greatest risk, with the risk to the loss of utility service (particularly electrical) also a consideration. Humans and animals can be injured or die from exposure to both extreme cold and extreme heat; agriculture can be damaged or destroyed by extremes in temperature, rendering crops unusable. Utility systems may fail under strains of demand, resulting in increases in exposure of humans and animals to extreme temperatures, as facilities cannot provide regulated temperatures and climate.

Drought

The risk associated with drought in Northern Virginia has not been formally quantified, due to the difficulty in assessing the rate of incidence, and the lack of complete data on drought impacts. There is low risk of human injury/death due to drought in Northern Virginia, and low risk of property damage. Crop damages due to drought are uncertain, as agricultural productivity often varies with growing conditions from year to year.

1.4 Community Loss and Save Information

Cardiac Arrest Outcomes

Historically, the agency has reported cardiac arrest outcomes by calendar year (CY) data using the Utstein template. However, due to prolonged vacancy in an analyst position, *2015 and 2016 were reported out as FY2015 and FY2016 and as Return of Spontaneous Circulation on arrival at emergency department/all Resuscitations.*

Utstein template focuses on the population of patients in cardiac arrest in which lifesaving interventions are most likely to be effective. This population is defined by the following arrest criteria:

1. Presumed cardiac etiology
2. The arrest is witnessed by bystanders
3. The patient presents with a shockable rhythm (Ventricular -Fibrillation or Ventricular-Tachycardia)

Year	% ROSC at ED	Method
CY 2012	52%	Utstein
CY2013	50%	Utstein
CY2014	58%	Utstein
<i>FY2015</i>	<i>23%</i>	<i>ROSC @ ED/all resuscitations</i>
<i>FY2016</i>	<i>21%</i>	<i>ROSC @ ED/all resuscitations</i>
Q1-Q2 of CY2017	38.8%	Utstein

Fire Loss: Reported in millions of dollars

Fiscal Year	Total Fire Loss (millions)
2013	6.8
2014	12.3
2015	15.9
2016	14.9
2017	14.7

Civilian Fire Casualties

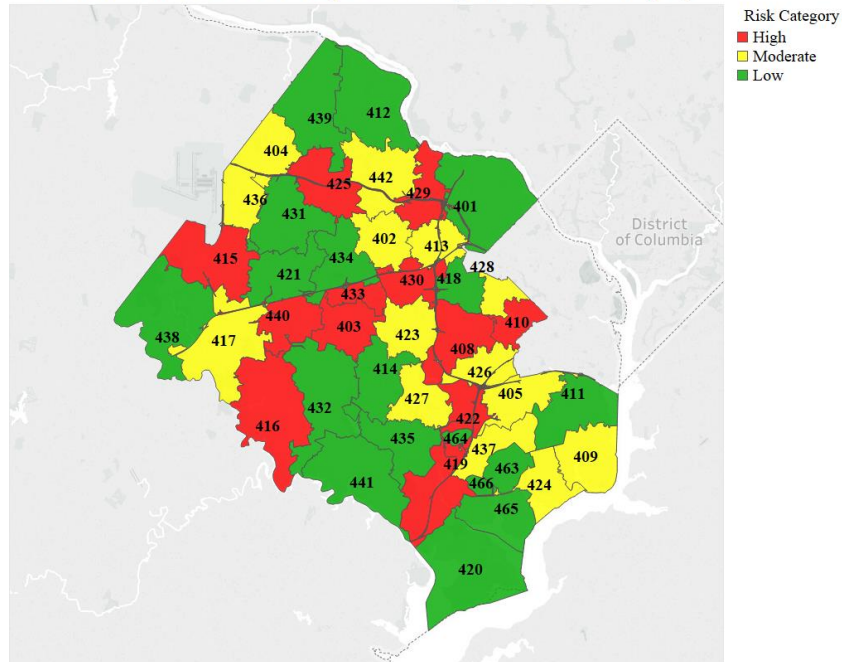
Civilian Fire Casualties	2013	2014	2015	2016	2017
Burn Injuries	8	15	11	24	9*
Deaths	8	4	4	3	1*
Total	16	19	15	27	10*

* Civilian Fire Casualty data is recorded by calendar year-number listed as of 9/25/2017

1.5 Response Category-Risk

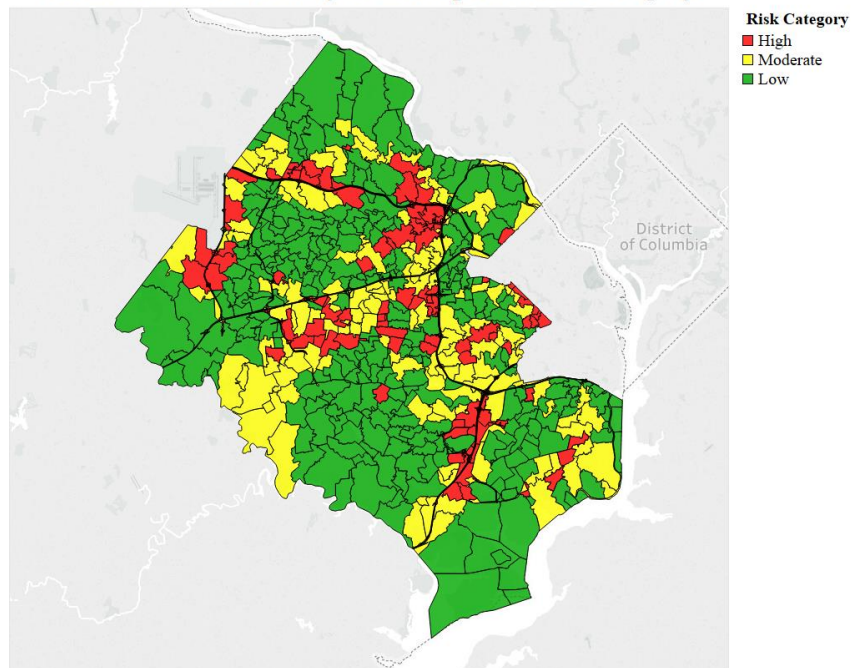
Emergency Medical Services

First-Due EMS Probability & Consequence Risk Category



Map based on Longitude (generated) and Latitude (generated). Color shows details about Prob Con 1 (group). The marks are labeled by First Due. Details are shown for First Due.

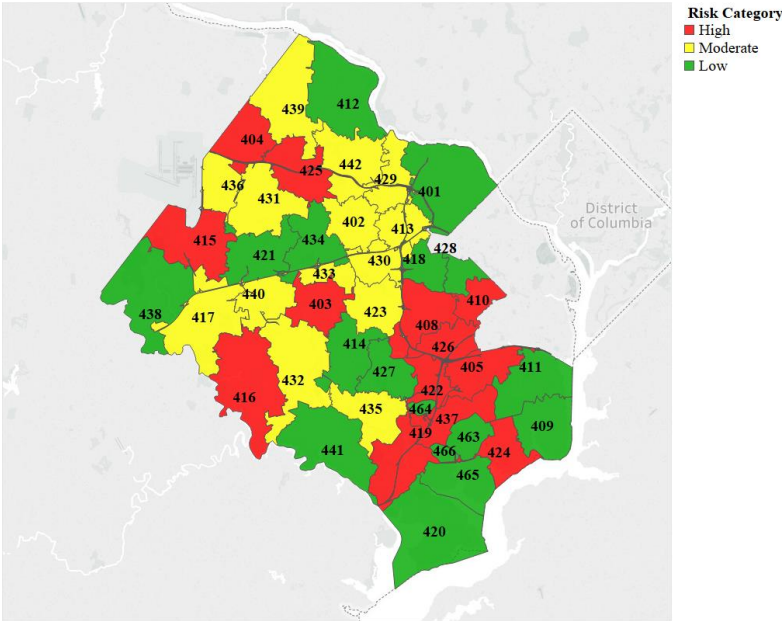
Fire Box EMS Probability & Consequence Risk Category



Map based on Longitude (generated) and Latitude (generated). Color shows details about Prob Con 1 (group). Details are shown for Fire Box N and First Due.

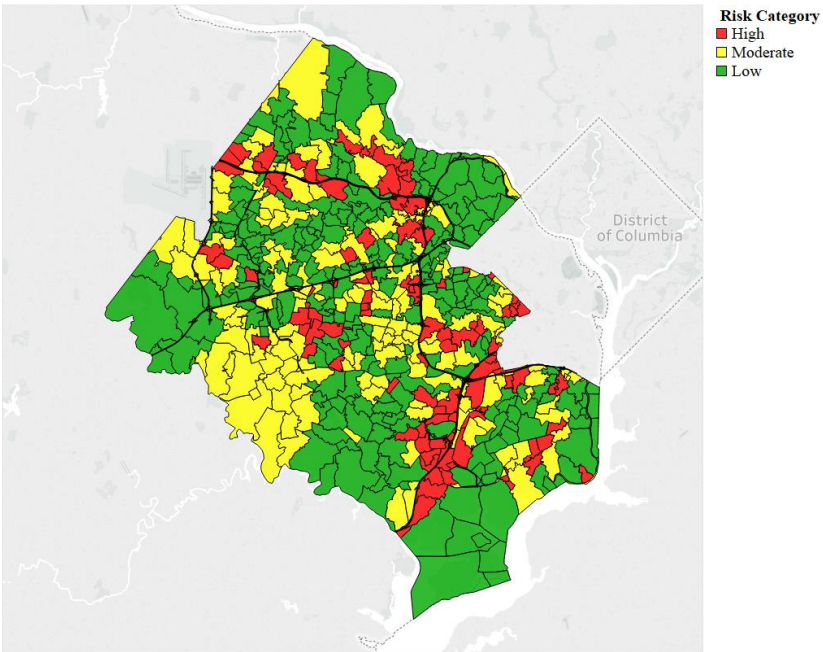
Fire Response

First-Due Structure Fires Probability & Consequence Risk Rank (Injury)



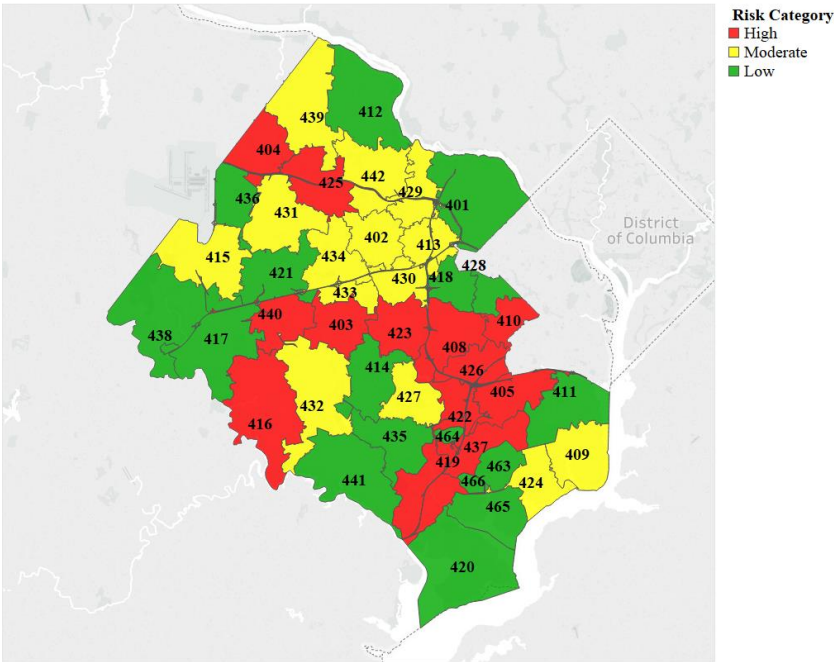
Map based on Longitude (generated) and Latitude (generated). Color shows details about Prob Con 1 (group). The marks are labeled by First Due. Details are shown for First Due.

Fire Box Structure Fires Probability & Consequence Risk Rank (Injury)



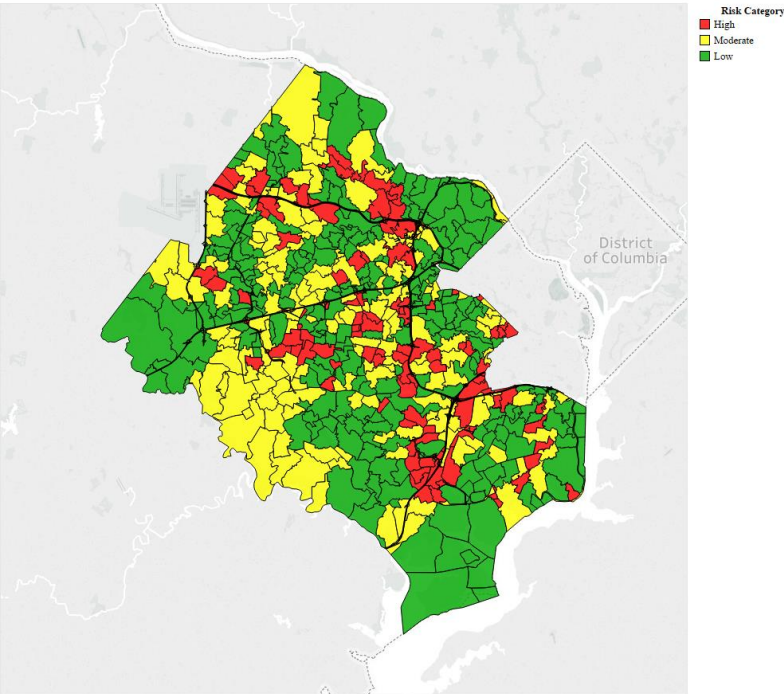
Map based on Longitude (generated) and Latitude (generated). Color shows details about Prob Con 1 (group). Details are shown for Fire Box N.

First-Due Structure Fires Probability & Consequence Risk Rank (Death)



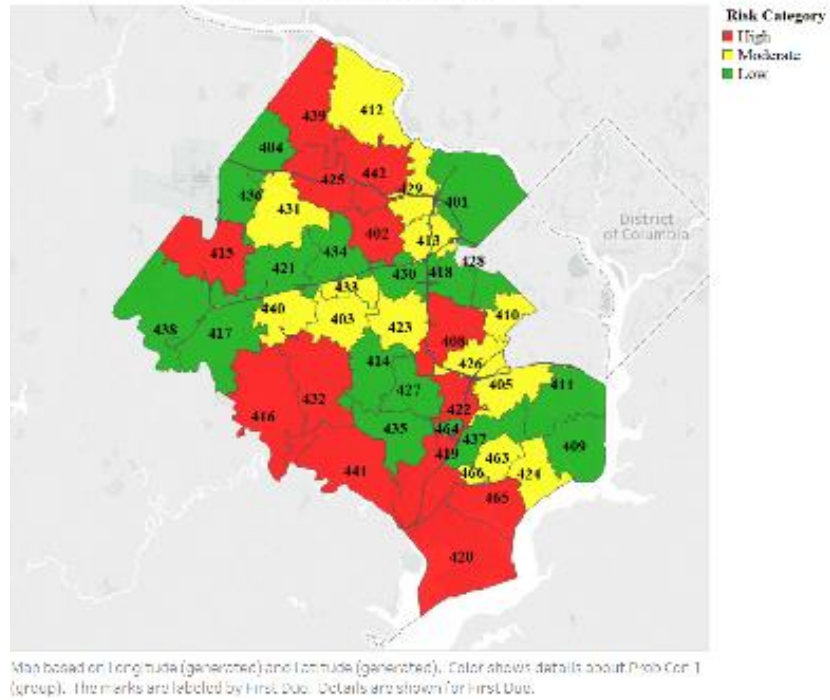
Map based on Longitude (generated) and Latitude (generated). Color shows details about Prob Con 1 (group). The marks are labeled by First Due. Details are shown for First Due.

Fire Box Structure Fires Probability & Consequence Risk Rank (Death)

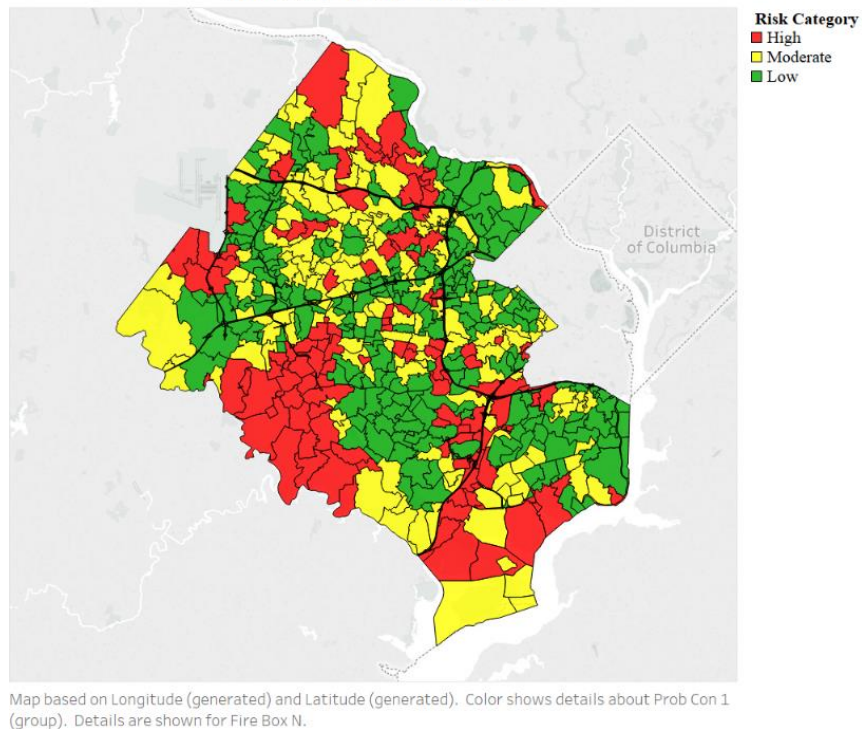


Map based on Longitude (generated) and Latitude (generated). Color shows details about Prob Con 1 (group). Details are shown for Fire Box N.

First-Due Structure Fires Probability & Consequence Risk Rank (Property Damage)

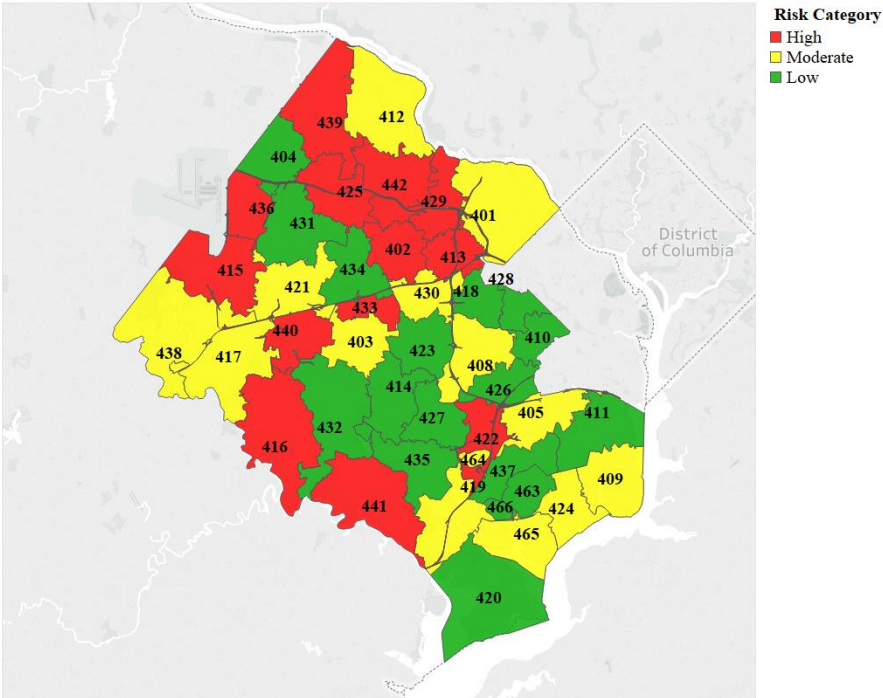


Fire Box Structure Fires Probability & Consequence Risk Rank (Property Damage)



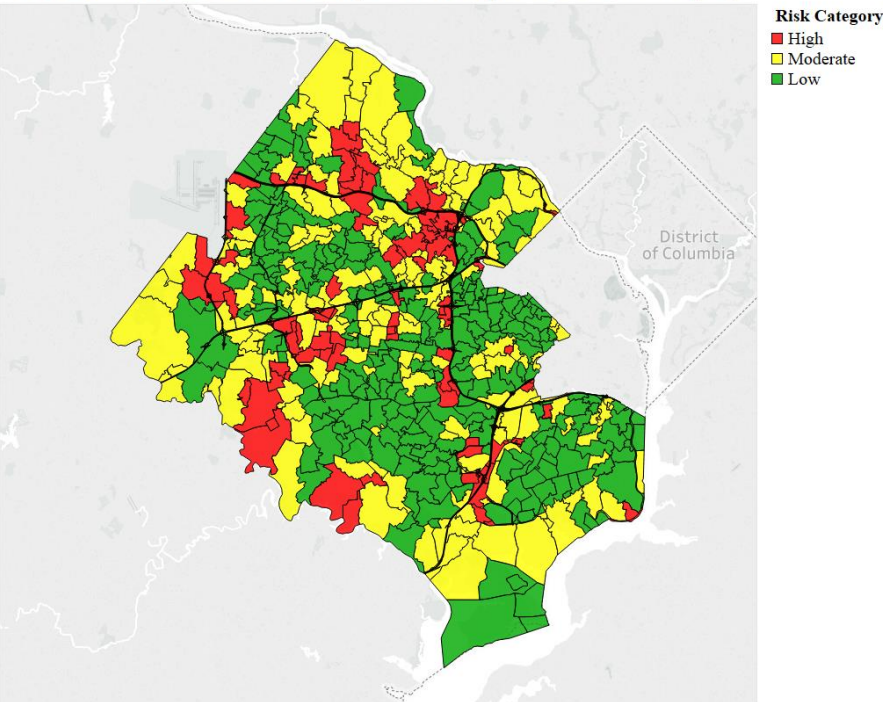
Hazardous Materials Response

First-Due HazMat Probability & Consequence Risk Category



Map based on Longitude (generated) and Latitude (generated). Color shows details about Prob Con 1 (group). The marks are labeled by First Due. Details are shown for First Due.

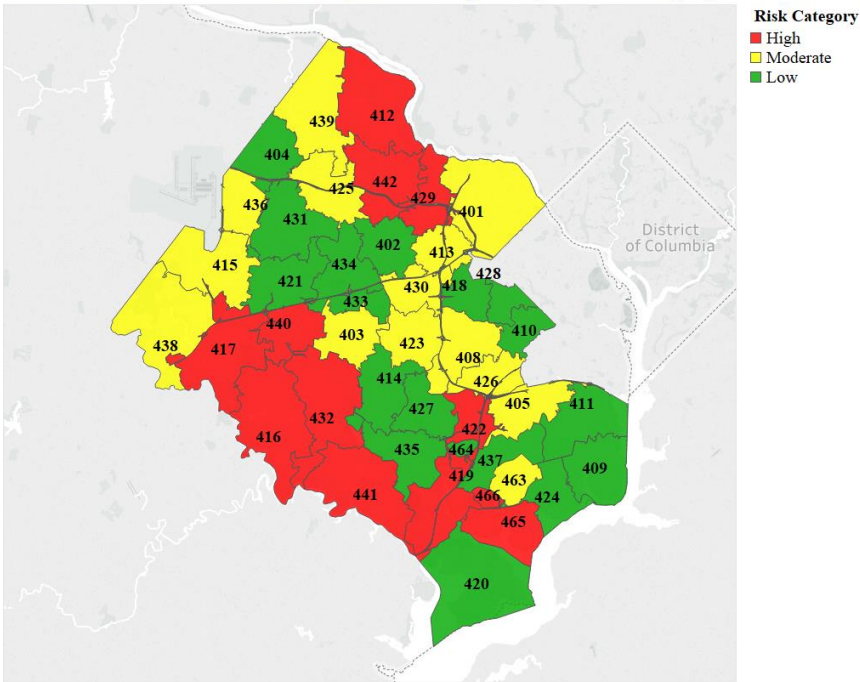
Fire Box HazMat Probability & Consequence Risk Category



Map based on Longitude (generated) and Latitude (generated). Color shows details about Prob Con 1 (group). Details are shown for Fire Box N and First Due.

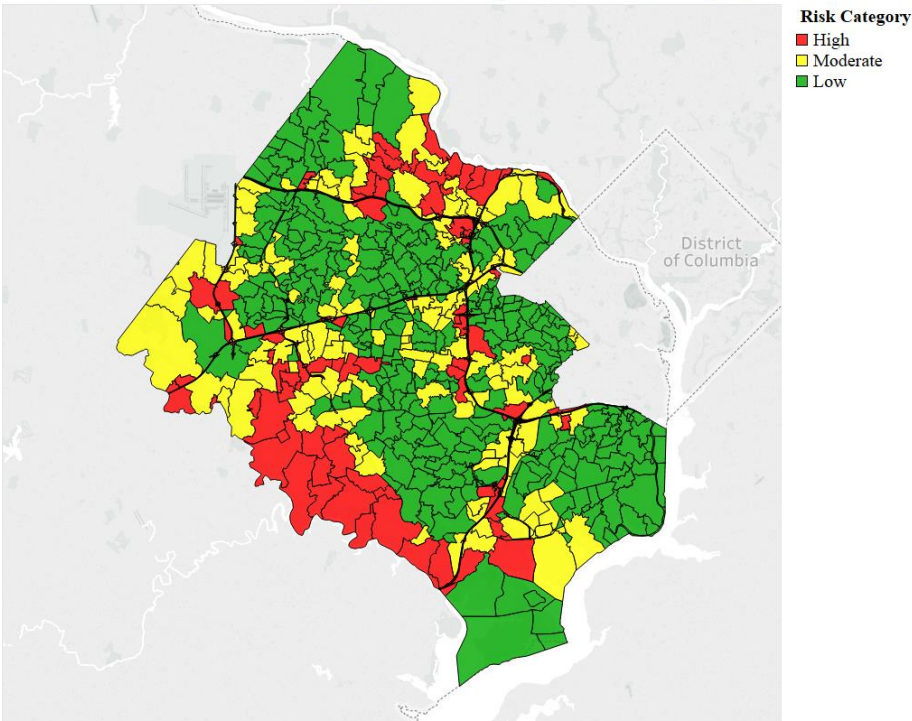
Technical Rescue Response

First-Due Rescue Probability & Consequence Risk Category



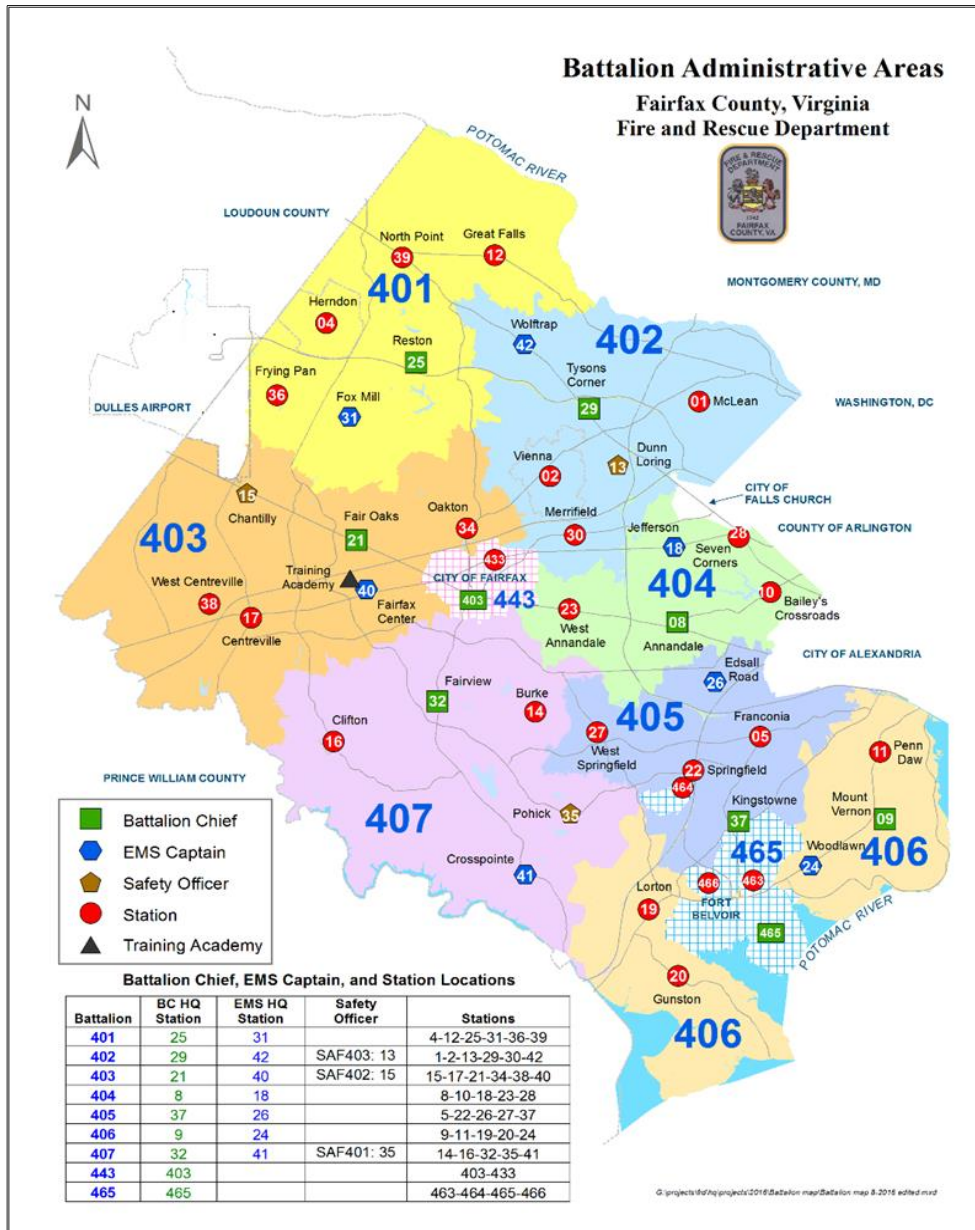
Map based on Longitude (generated) and Latitude (generated). Color shows details about Prob Con 1 (group). The marks are labeled by First Due. Details are shown for First Due.

Fire Box Rescue Probability & Consequence Risk Category



Map based on Longitude (generated) and Latitude (generated). Color shows details about Prob Con 1 (group). Details are shown for Fire Box N, Fire Box N and First Due.

1.6 Risk by Service Demand Zones



Fairfax County is divided into 38 Service Demand Zones that correlate to the 38 fire stations within the response system. Each of these zones are based off the historical location of the fire station and response times. FCFRD has transitioned to Automatic Vehicle Location (AVL) for dispatching of the closest unit for service demand. The original Service Demand Zones are maintained to provide administrative structure within the area. The 38 zones are located within 7 Battalions with each assigned Battalion Chief and an EMS Supervisor. Battalions 443 and 465 are neighboring jurisdictions that operate on automatic aid and shared resources within the borders of the county.

Page Left Intentionally Blank

DEMAND ZONE 404



Fire Station 404 (Herndon) is located at 680 Spring Street, Herndon, VA. in the Hunter/ Dranesville Magisterial District. Daily minimum staffing is 6 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	FY2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,685
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,205

Population Density: Urban

Number of Fire Boxes: 16

Area Description: Fire Zone 404 is an urban zone with approximately 7.89 square miles of service area within the 1st Battalion that serves a population of 44,354. The zone consists mainly of Type III and V, single family homes with some low rise commercial areas mixed with a downtown urban core. Zone 404 has a 120 unit retirement community, garden apartments and a commercial district that consist of sprinkled and un-sprinkled buildings. Fire Zone 404 is bordered on the north by Zone 439, the east by Zone 425, the south by 431 and 436, and the west by Loudoun County to which we provide automatic aid. Station 404 is a new fire station which replaced an aging station in 2017.

Dispatches for service over the past 3 years:

2017- 4,890 (1.98% Increase)

2016- 4,795 (4.90% Increase)

2015- 4,571

FY2016 Incident Rate per 1,000 Population = 73.45

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	72.9%	76.9%	78.7%	76.2%
Fire	92.1%	84.0%	90.3%	88.9%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:25	00:01:25	00:01:24	00:01:25
Fire	00:01:18	00:01:28	00:01:19	00:01:24
HazMat	00:01:07	00:01:11	00:01:02	00:01:10
Technical Rescue	00:01:37	00:01:00	00:01:11	00:01:21

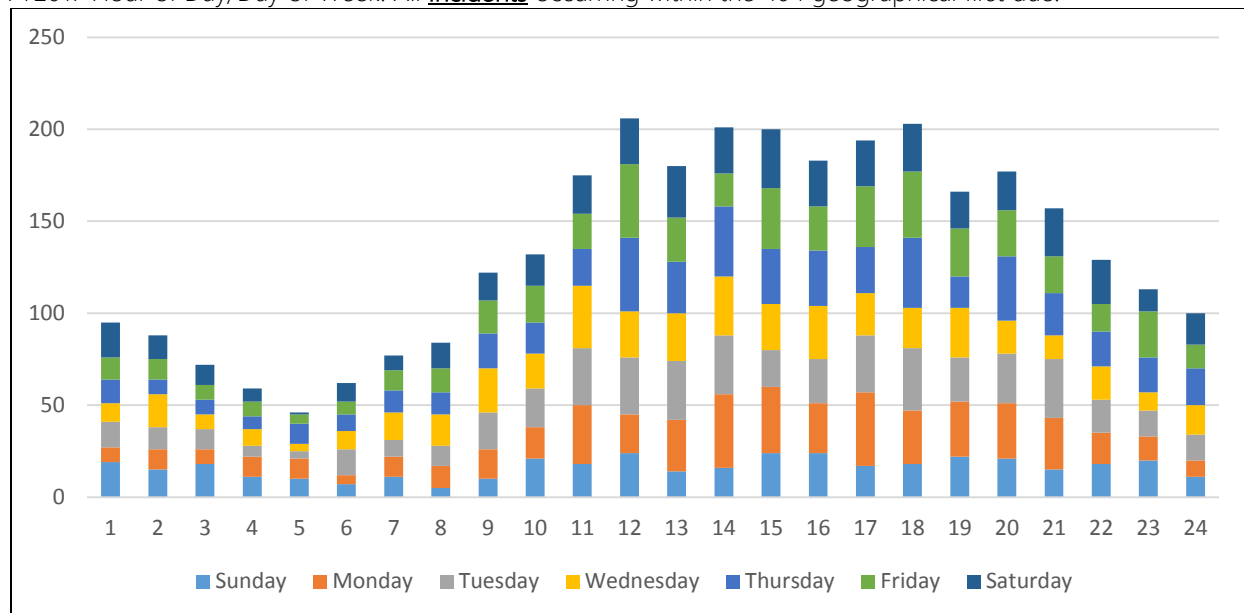
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from station 04.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	32	14	21	14	16	18	24	139
1	21	13	18	27	8	16	25	128
2	28	12	19	14	15	14	19	121
3	21	16	8	13	12	13	12	95
4	16	19	6	4	13	8	6	72
5	10	5	19	9	12	13	15	83
6	14	19	14	20	15	11	10	103
7	11	19	27	32	21	17	20	147
8	25	26	31	41	34	28	24	209
9	24	36	31	42	34	33	29	229
10	32	33	43	54	24	32	40	258
11	29	22	49	38	53	52	38	281
12	26	37	43	39	40	32	41	258
13	27	48	50	45	48	32	38	288
14	23	48	32	38	47	43	33	264
15	32	40	41	43	50	44	41	291
16	25	52	46	45	35	42	40	285
17	31	41	48	35	61	49	38	303
18	28	42	37	42	29	32	27	237
19	34	41	50	36	51	32	35	279
20	34	40	43	27	35	32	39	250
21	32	29	31	28	35	31	29	215
22	34	25	24	19	32	36	26	196
23	10	18	18	29	25	24	35	159
Total	599	695	749	734	745	684	684	4,890

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 404 geographical first due.



Major Transportation Major roadways in Herndon consist of Fairfax County Parkway, Dulles Toll Road, and State Route 28 which are all limited access highways. We also have a major bike and walking trail which is utilized for recreational and commuter traffic.

Major Infrastructure Washington Gas runs multiple underground Natural Gas transmission lines and multiple odorant stations to service the Reston/Herndon Area.

Major Services and Utilities

- Numerous Dominion Power electrical sub-stations
- Washington Gas Natural Gas lines
- The Town of Herndon also maintains a water tower to supply their system.

Medical Facilities

- Reston Hospital
- Access of Reston

County Schools-

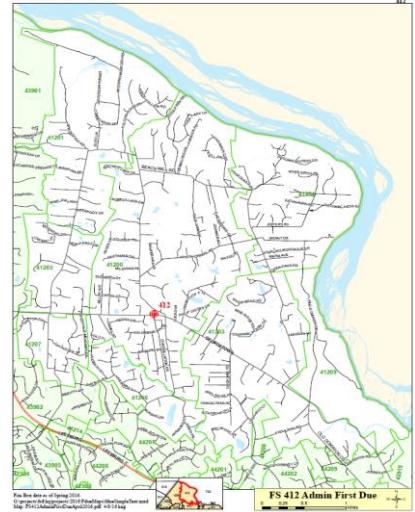
- Herndon Middle School
- Herndon High School
- Hutchinson Elementary School

Governmental Facilities

- U.S. Post Office
- Reston Police Station
- Herndon Police Station
- Multiple CIA and other governmental facilities

Primary Target Hazard Fire Mixed-use commercial occupancies reside along Elden Street and Herndon Parkway. Numerous garden style apartment complexes house a high population of this zone's residents. Unique building construction features exist throughout this zone including commercial office buildings built above parking garages, trash chutes, storage areas, basements without exterior access, as well as many vacant structures. We also have a 230,000 square foot mall that houses a fitness facility and 9 screen theater.

Primary Target Hazard Non-Fire Worldgate Center is a 230,000 sq. ft. mall including restaurants, underground parking, a fitness facility and 9 screen theater. An increase in accident dispatches on Fairfax County Parkway and Dulles Toll Road. Low income housing along Elden Street increases foot traffic and motor vehicle accidents. Multiple emergency service requests for retirement community.

DEMAND ZONE 412

Fire Station 412 (Great Falls) is located at 9916 Georgetown Pike, Great Falls, VA. in the Dranesville Magisterial District. Daily minimum staffing is 7 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	609
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	510
Tanker	1 Driver/EMT-B	117
Brush Truck	Cross Staffed by Engine	10
Boat-Swift Water	Cross Staffed by Engine	34

Population Density: Rural

Number of Fire Boxes: 8 (All Rural)

Station Specialties: Fire Station 412 operates two swift water boats and is primary response for rescue at Great Falls National Park.

Area Description: Fire Zone 412 is an area of 15.08 square miles within the 1st Battalion that serves a population of 8,930. The zone consists of mostly rural/suburban area which comprises large multi-million dollar homes to smaller ranch type houses built in the 1960's. Most of the zone is non-hydrant so tankers are factored into the response planning. Zone 412 has an abundance of parkland and wildland areas where brush fires are common in the fall and spring. The national parks increase the likelihood of lost/injured hikers who are generally not experienced outdoors people. Zone 412 responds into Great Falls Park which encompasses

waterfalls which fall approximately 85 feet through the Potomac River Basin and are considered Class 5 rapids.

Dispatches for service over the past 3 years:

2017-1,351 (1.60% decrease)

2016-1,373 (11.99% Increase)

2015-1,226

FY2016 Incident Rate per 1,000 Population = 71.66

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	61.7%	54.9%	58.2%	58.1%
Fire	84.2%	74.3%	73.8%	76.0%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:45	00:01:41	00:01:49	00:01:44
Fire	00:01:53	00:01:48	00:02:00	00:01:54
Technical Rescue	00:03:26	00:02:56	00:01:39	00:02:47
HazMat	00:02:38	00:01:16	00:02:53	00:02:39

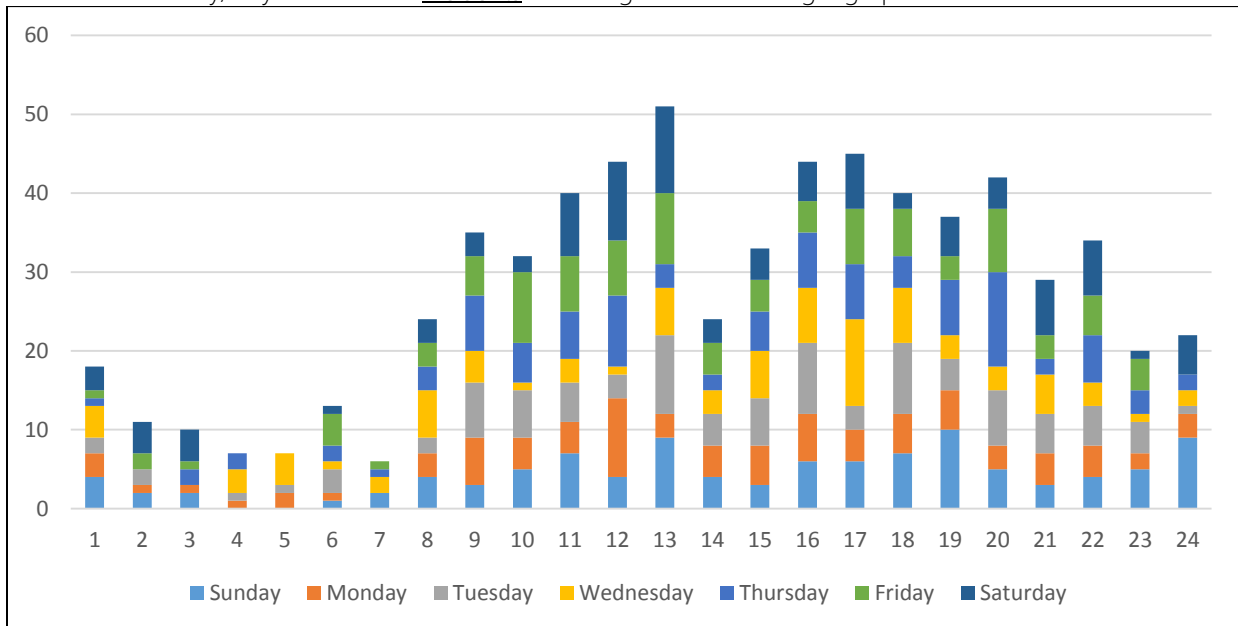
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 12.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	6	2	4	4	2	1	6	25
1	4	2	5	0	0	5	7	23
2	8	1	1	0	2	2	6	20
3	2	2	2	5	2	0	0	13
4	0	3	1	6	0	0	0	10
5	1	4	3	4	4	6	3	25
6	5	0	0	3	2	2	1	13
7	7	7	4	9	5	3	7	42
8	5	11	12	9	7	8	6	58
9	9	11	13	5	12	13	4	67
10	10	10	13	16	11	15	16	91
11	14	20	12	7	10	17	17	97
12	16	10	13	15	7	15	25	101
13	5	13	11	13	11	5	6	64
14	7	8	12	11	11	13	8	70
15	11	22	17	16	11	9	8	94
16	11	14	5	23	5	12	16	86
17	12	12	19	13	10	13	3	82
18	14	13	11	10	13	5	11	77
19	7	7	13	8	30	13	8	86
20	5	11	8	13	2	9	13	61
21	7	6	12	8	7	7	16	63
22	7	7	7	1	6	7	2	37
23	15	2	3	5	6	2	13	46
Total	188	198	201	204	176	182	202	1,351

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 412 geographical first due.



Major Transportation The primary transportation route through Great Falls is Georgetown Pike which is a 2-lane “Virginia Byway” running east-west and carries a large volume of commuter traffic in the mornings and evenings. It is a twisting, winding two lane road which produces severe accidents during all hours of the day.

Major Infrastructure

- Fairfax County Public Safety Communications Radio Tower -- Great Falls.
- Several Colonial Pipelines transverse the Great Falls area carrying natural gas and petroleum products.
- There are also critical national defense telecommunication lines crossing the area.

Major Services and Utilities

- Petroleum/Natural gas pipelines
- Electrical
- Telecommunication

Medical Facilities

- One walk-in clinic

County Schools

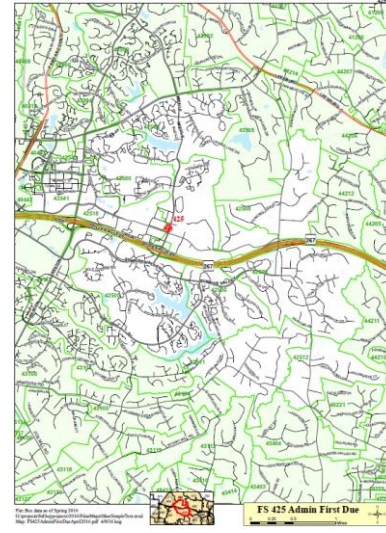
- Great Falls Elementary School

Governmental Facilities

- Fairfax County Fire Station 412

Primary Target Hazard Fire Large multi-million dollar homes exceeding 5,000 square feet with limited or no water supply. These structures are built in wooded, large rural lots with narrow access roads with gates. Many of the homes are owned by foreign governments and wealthy political/business people who have high security and privacy concerns which often causes a delay in entry to the structure or property.

Primary Target Hazard Non-Fire Great Falls National Park, Riverbend Park and many regional park properties generating calls for lost or injured hikers, horseback riders, bikers. There is an increased risk of brush fires in these zone which may grow to substantial size due to limited access and lack of roads/trails leading into these area.

DEMAND ZONE 425

Fire Station 425 (Reston) is located at 1820 Wiehle Ave, Reston, VA. in the Hunter Mill Magisterial District. Daily minimum staffing is 11 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,486
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,345
Truck-Tiller	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,170
Battalion 401	1 Command Officer/EMT-B	673

Population Density: Urban

Number of Fire Boxes: 13

Station Specialties: Fire Station 425 serves as Battalion 401 Headquarters.

Area Description: Demand Zone 425 is urban service area of 9.07 square miles within the 1st Battalion that serves a population of 29,794. The area consists of urban density high-rise areas to rural non-hydranted areas. The first phase of the Washington Metropolitan Area Transit

Authority-Metro Silver line opened in 2015 and the second phase is currently underway creating development along the Dulles Toll Road corridor in proximity to the two Metro stations that will be within zone 425. The high-rise buildings consist of residential and commercial mixed use buildings along with a large number of Type III and V garden style apartment buildings and large multi-unit apartment buildings. Fire Zone 425 is bordered by Zones 404, 431, 439, 434, 442, and 402.

Dispatches for service over the past 3 years:

2017- 7,674 (0.27% Decrease)

2016- 7,695 (1.66% Increase)

2015- 7,569

FY2016 Incident Rate per 1,000 population = 113.34

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	63.9%	69.0%	52.1%	61.8%
Fire	89.4%	84.7%	80.2%	84.5%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:38	00:01:41	00:01:53	00:01:44
Fire	00:01:22	00:01:28	00:01:39	00:01:28
Technical Rescue	00:01:49	00:01:19	00:01:36	00:01:37
HazMat	00:01:28	00:01:23	00:01:54	00:01:39

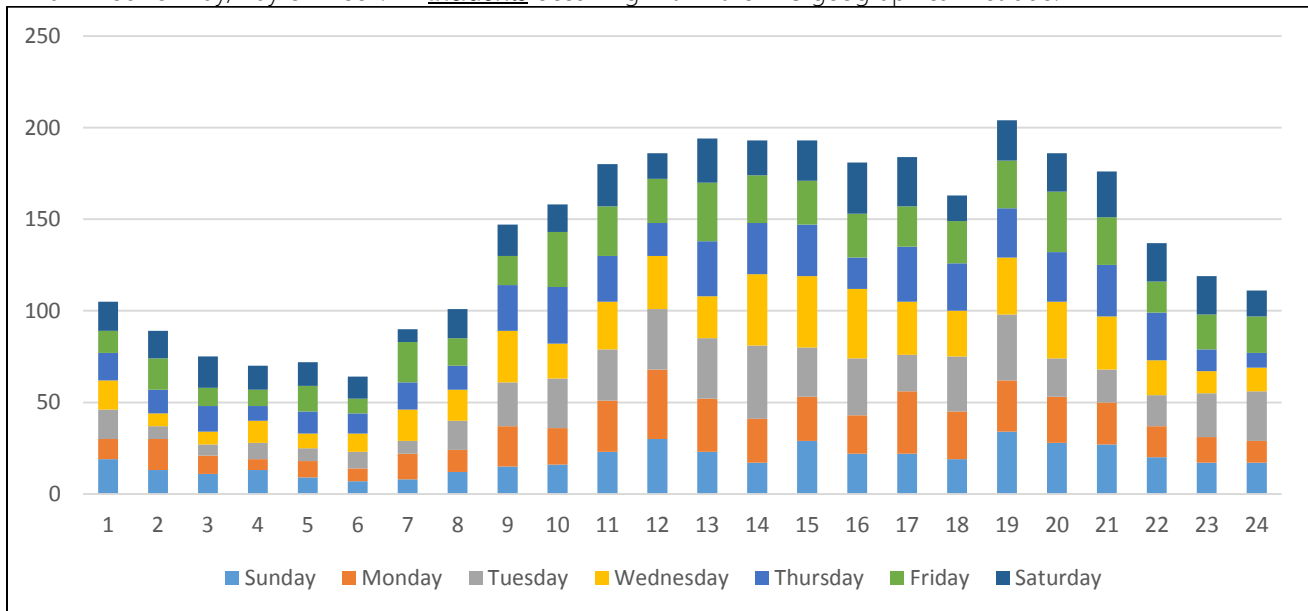
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 25.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	36	26	32	29	35	26	33	217
1	23	32	16	19	34	35	27	186
2	28	24	19	12	24	22	32	161
3	32	21	22	19	16	22	25	157
4	21	15	14	17	26	31	31	155
5	20	17	20	25	28	15	28	153
6	19	29	21	36	35	37	10	187
7	23	39	41	38	38	35	32	246
8	30	49	65	55	50	38	31	318
9	32	44	51	40	71	59	37	334
10	53	55	48	56	54	53	57	376
11	58	75	76	60	50	55	44	418
12	52	57	88	67	72	75	58	469
13	37	65	74	64	67	41	56	404
14	70	54	51	79	50	43	53	400
15	60	46	77	84	49	62	55	433
16	50	81	45	74	61	50	60	421
17	64	60	69	64	74	74	44	449
18	75	66	86	70	59	67	51	474
19	63	65	56	69	75	74	60	462
20	66	56	49	61	68	51	56	407
21	37	42	42	53	62	42	42	320
22	39	40	55	30	39	35	48	286
23	31	29	44	37	26	43	31	241
Total	1,019	1,087	1,161	1,158	1,163	1,085	1,001	7,674

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 425 geographical first due.



Major Transportation

- The Dulles Toll Road (Rt 267)
- Reston Parkway
- Baron Cameron Avenue
- Hunter Mill Road

Major Infrastructure

- Washington Metropolitan Area Transit Authority-Metro Silver line
- Fairfax County Public Safety Communications radio tower -- Reston

Major Services and Utilities

- Dominion Virginia high voltage line through zone

Medical Facilities

- Reston Hospital
- Kaiser Permanente Reston Medical Center

County Schools

- South Lakes High School
- Langston Hughes Middle School
- Terraset Elementary School
- Forest Edge Elementary School
- Sunrise Valley Elementary School
- Lake Anne Elementary School

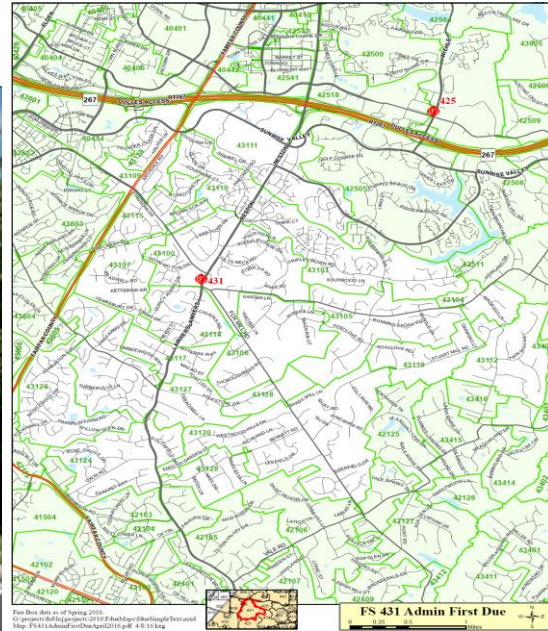
Governmental Facilities

- Fairfax County Reston Police Station
- North Fairfax County Governmental Center
- North Fairfax County Human Services Building
- Fairfax County Reston Regional Library
- Fairfax County Embury Rucker Shelter
- United States Post Office
- Numerous Homeland Security/CIA buildings
- Fairfax County Fire Station 425

Primary Target Hazard Fire Demand Zone 425 has multiple apartment buildings of all types. The Lake Anne Fellowship House on North Shore Drive are older buildings housing an elderly population. The Fellowship House, Sunrise, and Tall Oaks nursing homes. Many high-rise buildings with below grade parking garages and electrical transformers.

Primary Target Hazard Non-Fire Calls for EMS assistance in our multiple residential buildings and numerous nursing homes and elderly residences. Embry Rucker Community Shelter on Bowman Towne Drive creates calls for medical assistance in addition to other lower income areas along North Shore Drive. Kaiser Permanente generates transport requests from their facility to Reston and other area hospitals. Reston Town Center hosts many community events, fairs, and races that make it a target hazard and Reston's numerous lakes poses a year-round drowning and ice rescue threat.

W&OD Trail utilized very heavily by bicyclists and pedestrians alike generating an increase in EMS calls annually for injured bicyclists, etc.

DEMAND ZONE 431

Fire Station 431 (Fox Mill) is located at 2610 Reston Parkway, Herndon, VA. in the Hunter Mill Magisterial District. Daily minimum staffing is 7 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,851
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,887
EMS401	1 Officer/EMT-P	1,201
SHU-HazMat Supply	Cross staffed	2

Population Density: Urban

Number of Fire Boxes: 23

Station Specialties: Fire Station 431 houses the EMS Supervisor for Battalion 1.

Area Description: Demand Zone 431 is an urban zone of 11.42 square miles within the 1st Battalion that serves a population of 33,043. The area consists of single-family residence, Type III and V townhomes and garden-apartments, and a few residential and commercial high-rise buildings. The area is approximately 85/15 residential/commercial. Demand Zone 431 is bordered by 404, 415, 421, 425, 434, and 436.

Dispatches for service over the past 3 years:

2017- 4941 (2.23% Increase)

2016- 4,833 (0.67% Increase)

2015- 4,801

FY2016 Incident Rate per 1,000 Population = 58.86

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	67.3%	64.6%	56.9%	62.8%
Fire	86.2%	82.5%	78.4%	82.3%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:38	00:01:40	00:01:46	00:01:42
Fire	00:01:33	00:01:33	00:01:45	00:01:35
Technical Rescue	00:01:42	00:01:38	00:01:43	00:01:42
HazMat	00:01:28	00:01:35	00:01:38	00:01:34

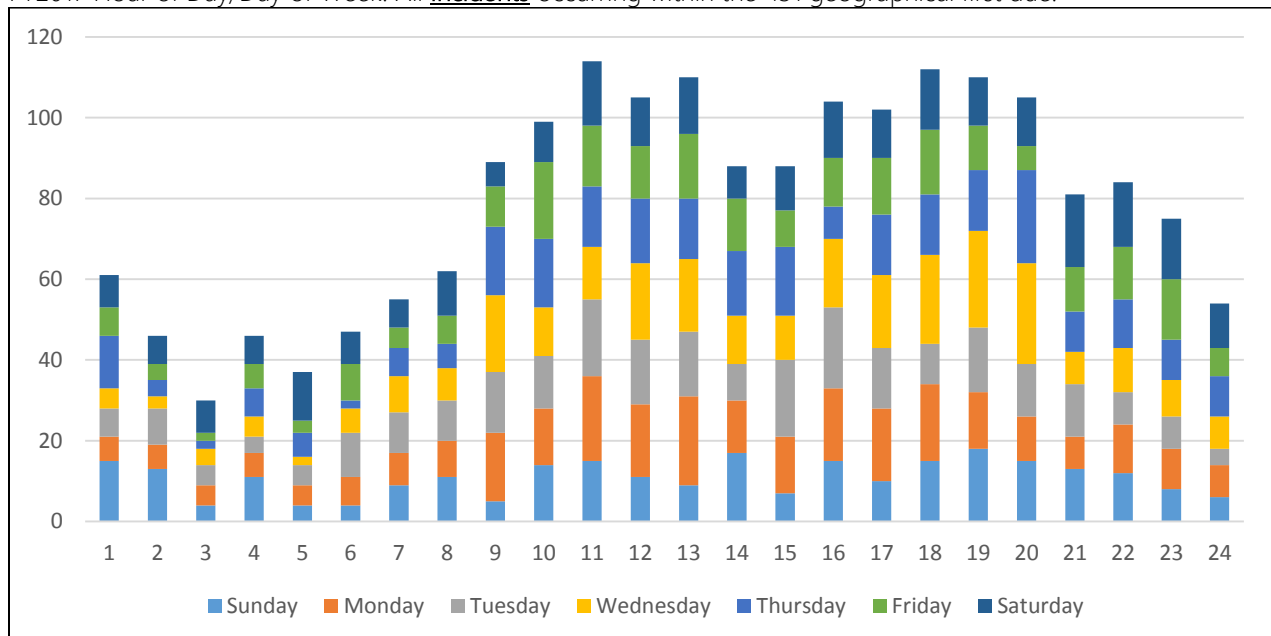
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 31.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	38	10	11	13	23	13	16	124
1	26	16	18	9	12	14	12	107
2	12	13	12	10	6	4	21	78
3	26	18	9	12	13	16	15	109
4	9	13	8	1	17	8	30	86
5	7	16	19	21	6	21	21	111
6	18	19	23	17	21	15	14	127
7	22	18	23	22	22	25	27	159
8	11	42	43	45	26	25	21	213
9	27	31	42	25	47	46	21	239
10	33	64	41	42	47	39	39	305
11	39	42	54	39	42	33	39	288
12	28	49	36	40	43	42	45	283
13	36	35	46	39	41	35	36	268
14	25	42	46	41	51	38	40	283
15	39	38	57	52	31	38	28	283
16	28	40	40	52	38	46	32	276
17	48	43	35	47	43	50	33	299
18	41	52	45	51	44	26	30	289
19	45	29	31	53	51	29	28	266
20	24	27	27	24	24	38	32	196
21	30	32	20	24	37	31	44	218
22	25	22	25	22	29	35	33	191
23	13	21	14	20	24	21	30	143
Total	650	732	725	721	738	688	687	4,941

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 431 geographical first due.



Major Transportation

- Dulles Access Rd/Rte. 267 Toll Road
- Fairfax County Parkway
- Reston Parkway
- Washington Transportation Authority-Metro Silver Line (2 stations)

Major Infrastructure

- Large number of U.S. Government agencies and contractors
- State Route 267 and Fairfax County Parkway are major roadways across the county.

Major Services and Utilities

- Colonial Pipeline- Refined Liquids Petroleum Product Pipeline
- Verizon Transfer Switching Station – Battery Back-Up (Foxmill/Westwood Hills)

Medical Facilities

- US Renal Care - Dialysis Center 12330 Pinecrest

County Schools

- Fox Mill Elementary
- A.Scott Crossfield Elementary
- Dogwood Elementary
- Hunters Woods Elementary

Governmental Facilities

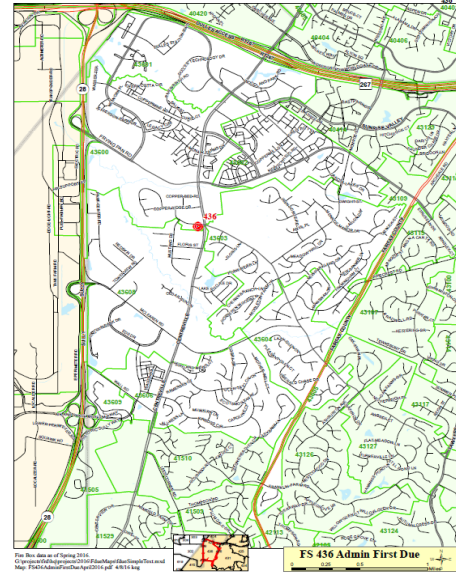
- USGS - U.S. Geological Survey
- U.S. Department of the Interior buildings
- U.S. Department of State buildings
- Several Federal Contractors

Primary Target Hazards Fire

The primary fire target hazards are all facility locations listed in this report. With numerous governmental agencies and locations with high occupancy loads the potential for major events exists.

Primary Target Hazards Non-Fire

Hunters Woods Fellowship House at 2231 Colts Neck Road; Reston Community Center; Al Fatih Academy Muslim School Pinecrest; Kay School at 3005 Dower House all increase the number of requests for EMS services. Numerous lakes and ponds in Zone 431 pose year round threats for water/ice rescues.

DEMAND ZONE 436

Fire Station 436 (Frying Pan) is located at 2660 West Ox Road, Herndon, VA. in the Sully Magisterial District. Daily minimum staffing is 10 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,978
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,977
Truck-Tower	1 Officer/EMT-B 1 Driver/EMT-B 1 Technician/EMT-B 1 Firefighter/EMT-P	1,949
LA436-Light-Air Unit	Cross staffed	35

Population Density: Urban

Number of Fire Boxes: 9

Station Specialties: Fire Station 436 houses one of the three Light and Air Units that respond on all structure fires within the county. The unit is cross-staffed with on duty personnel.

Area Description: Fire Zone 436 is an urban zone of 6.26 square miles within the 1st Battalion that serves a population of 30,412. The area consists of multiple high-rise and mid-rise structures and a significant number of Type-V townhouse, single family, and garden style apartments. High rise structures are mostly commercial, post 1976 construction with full fire

suppression systems. Zone 436 responds automatic aid to adjacent Washington Dulles International Airport which provides a varying degree of flammable liquids and high population aviation risk.

Dispatches for service over the past 3 years:

2017- 5,939 (3.11% Increase)

2016- 5,760 (6.55% Increase)

2015- 5,406

FY2016 Incident Rate per 1,000 population = 58.92

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	58.0%	60.8%	63.3%	60.7%
Fire	58.4%	74.4%	70.6%	68.0%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:49	00:01:46	00:01:43	00:01:46
Fire	00:02:06	00:01:41	00:01:57	00:01:57
Technical Rescue	00:01:38	00:01:40	00:01:15	00:01:37
HazMat	00:02:15	00:01:58	00:02:23	00:02:13

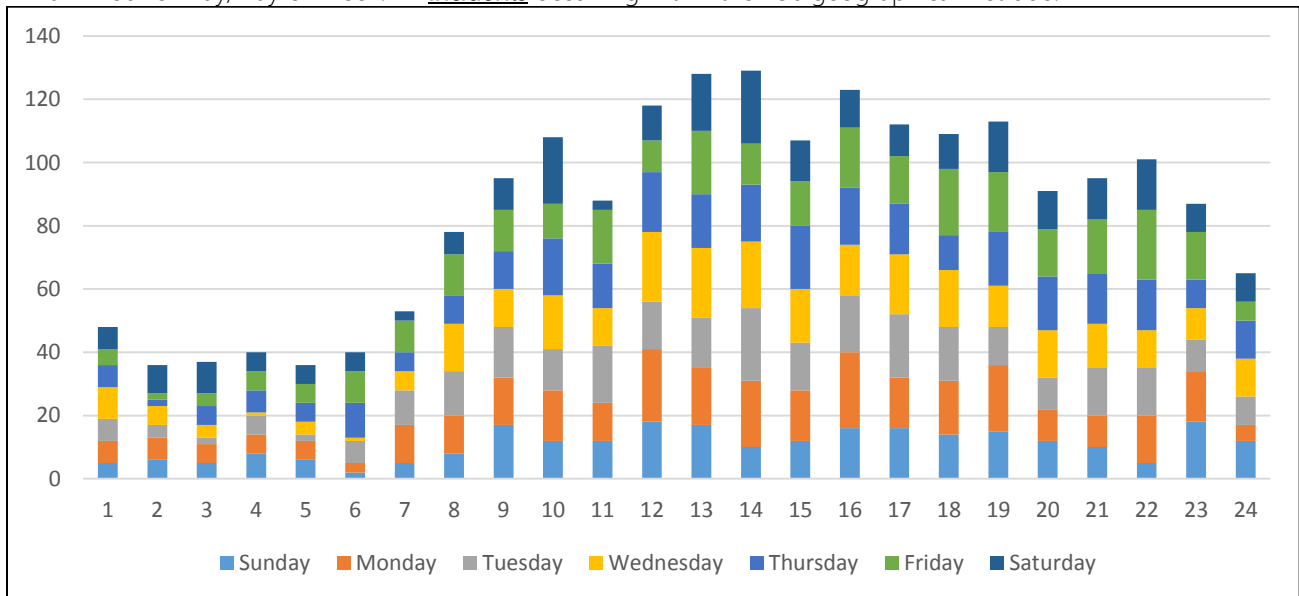
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 36.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	23	21	20	22	25	20	26	157
1	17	21	13	15	15	11	24	116
2	21	15	12	9	18	8	24	107
3	24	22	16	4	14	13	17	110
4	16	12	10	13	12	19	17	99
5	9	14	24	14	26	21	20	128
6	16	25	23	23	29	24	10	150
7	14	26	28	34	33	27	16	178
8	41	42	54	47	37	37	24	282
9	36	42	55	55	41	35	41	305
10	39	49	53	42	39	50	24	296
11	51	61	51	59	54	37	36	349
12	36	43	56	56	50	57	45	343
13	30	63	65	59	55	50	56	378
14	45	48	40	42	45	48	53	321
15	41	59	59	54	60	63	40	376
16	35	54	59	54	65	46	27	340
17	44	53	57	57	54	55	40	360
18	36	54	48	50	50	41	42	321
19	39	28	35	50	55	42	36	285
20	39	28	42	38	48	46	42	283
21	16	32	42	33	44	42	50	259
22	43	30	31	29	24	44	24	225
23	35	17	19	30	28	16	26	171
Total	746	859	912	889	921	852	760	5,939

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 436 geographical first due.



Major Transportation

- Washington Dulles International Airport
- Washington Metropolitan Area Transit Authority (WMATA) Metro, a passenger rail system from Fairfax County Parkway to Dulles Airport.
- State Route 28, a 3 lane limited access highway from Route 267 to Route 50.
- Dulles Toll Road (Route 267)
- Fairfax County Parkway (Route 286)

Major Infrastructure

- Roadway interchanges along State Routes 28, 267, and 286.
- Washington Metropolitan Area Transit Authority-Silver Line

Major Services and Utilities None

- Fuel tank farm supplying Washington Dulles Airport on western border

County Schools

- Rachel Carson Middle School
- Oak Hill Elementary School
- Floris Elementary School
- McNair Farms Elementary School
- Lutie Lewis Coates Elementary School

Governmental Facilities

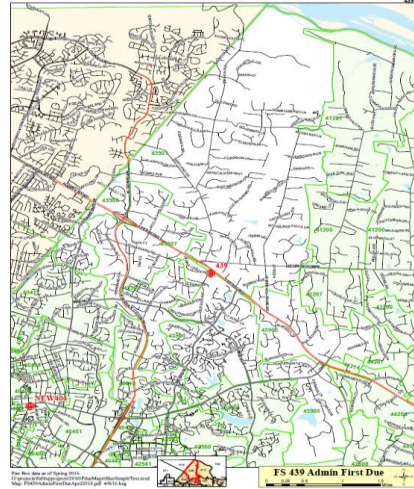
- Fairfax County Frying Pan Farm Park
- Air Marshall Facility
- Several large governmental contractors

Primary Target Hazard Fire

Type-V single family and dense residential structures throughout the zone. Mixed use commercial and high-rise structures with varying occupancies. Multiple mid-rise structures have been newly constructed, equipped with standpipes with large footprint. Dulles Airport tank farm is most extreme fire risk.

Primary Target Hazard Non-Fire

Motor vehicle accidents along State Route 28 and Dulles Toll Road, Route 267. Newly constructed Washington Metropolitan Area Transit Authority Metro stations will result in significant population commuting to the area. Multiple high rise complexes increase the volume of population during the day. Calls for emergency medical service originate from the large variety of hotel populations supporting Washington Dulles International Airport and various senior living and nursing home complexes, specifically Kendrick Court Senior Living Apartments, Dulles Health and Rehabilitation, Chantilly Crossing Senior Living and McNair Senior Living. A water storage facility is located off New Parkland Drive, near Fairfax County Parkway.

DEMAND ZONE 439

Fire Station 439 (North Point) is located at 1117 Reston Ave., Herndon, VA. in the Hunter Mill Magisterial District. Daily minimum staffing is 11 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,377
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,544
Heavy Rescue	1 Officer/EMT-B 1 Driver/EMT-B 1 Technician/EMT-B 1 Technician/EMT-P	1,071
Tanker	1 Driver/EMT-B	92
Brush Truck	Cross Staffed	8
Boat-Swift Water x2	Cross Staffed	15

Population Density: Urban/Rural

Number of Fire Boxes: 8

Station Specialties: Fire Station 439 houses one of 4 heavy rescue units staffed by 4 Technical Rescue Personnel. FS439 is one of 4 fully staffed technical rescue resources and staffs 4 of the 16 required minimum daily staffing for the Technical Rescue Program. Additionally two of the county swift water boats and Technical Rescue support units operate from FS439.

Area Description:

Fire zone 439 is a mixed urban/rural zone of 14.61 square miles within the 1st Battalion that serves a population of 25,053. There is a mix of urban areas to the south and east and rural non-hydrant areas to the west and north. Fire station 439 runs automatic aid with Loudoun County

Dispatches for service over the past 3 years:

2017- 4,107 (2.09% Increase)

2016- 4,023 (5.67% Increase)

2015- 3,807

FY2016 Incident Rate per 1,000 population = 51.58

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	61.2%	64.0%	64.4%	63.2%
Fire	75.5%	75.0%	70.9%	73.7%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:45	00:01:43	00:01:40	00:01:43
Fire	00:01:41	00:01:49	00:01:53	00:01:49
Technical Rescue	00:01:44	00:01:25	00:01:33	00:01:36
HazMat	00:01:41	00:01:41	00:01:49	00:01:42

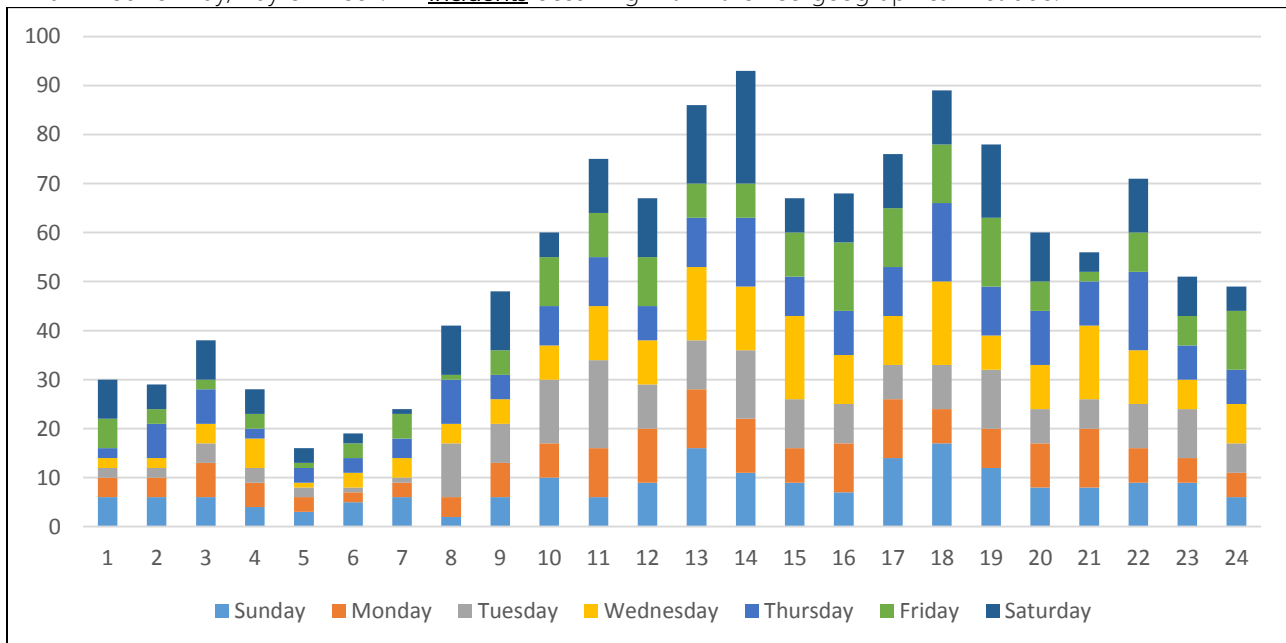
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 39.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	19	12	7	7	6	17	26	94
1	11	9	4	4	20	11	14	73
2	15	16	12	5	14	10	18	90
3	13	17	10	10	3	9	12	74
4	9	4	4	2	7	4	14	44
5	14	9	9	17	10	8	10	77
6	16	8	9	16	14	15	5	83
7	3	11	25	21	30	9	24	123
8	17	29	27	24	20	10	27	154
9	21	26	41	24	40	35	21	208
10	20	41	40	35	29	31	35	231
11	36	38	41	16	33	37	34	235
12	28	33	34	36	41	35	54	261
13	29	27	37	37	44	25	50	249
14	30	26	32	49	46	31	25	239
15	29	40	44	33	24	32	31	233
16	40	42	25	37	37	38	32	251
17	39	25	36	47	46	32	23	248
18	45	28	50	30	28	37	40	258
19	31	39	22	31	46	28	31	228
20	31	33	17	38	19	20	16	174
21	16	28	25	27	47	22	32	197
22	23	21	26	16	21	21	31	159
23	14	17	17	16	23	23	14	124
Total	549	579	594	578	648	540	619	4,107

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 439 geographical first due.



Major Transportation

- State Route 7 (Leesburg Pike)
- Reston Parkway
- State Route 286 (Fairfax County Parkway)
- Algonkian Parkway
- Potomac River

Major Infrastructure

- Lake Fairfax Park: 476 acre park includes a 20-acre lake with fishing, the Water Mine family Swimming Hole, boat rentals, carousel, athletic fields, picnic shelters and picnic areas with grills, a playground, restrooms, campgrounds, trails and a skate park.

Major Services and Utilities

- Fairfax Water Authority: Corbalis Water Treatment Plant which treats and supplies fresh water to the county. Seneca water inlet system.
- Colonial Pipeline
- Several Dominion Power and Washington Gas large diameter delivery pipelines.
- ATT Communications Underground facility

County Schools

- Buzz Aldrin elementary
- Neil Armstrong elementary
- Forestville Elementary School

Governmental Facilities

- Fairfax County Fire Station 439

Primary Target Hazard Fire

AT&T Underground facility

Numerous Rural area homes in excess of 8,000 sq. ft.

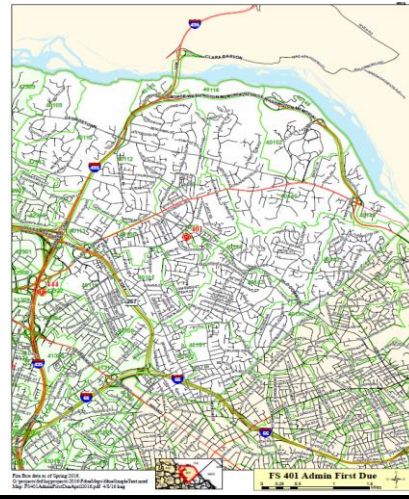
Unique building construction features exist throughout this zone including large open floor plans, hidden stairwells, residential elevators, cisterns, large pool houses and separate living spaces.

Two large retirement homes, one specifically for residents diagnosed with Alzheimer's disease or other dementia.

Primary Target Hazard Non-Fire

Potomac River, water rescue year round.

Lake Fairfax and Seneca Regional Parks. Both sites involve medical and logistical challenges. Both parks also host large events throughout the year.

DEMAND ZONE 401

Fire Station 401 (McLean) is located at 1455 Laughlin Avenue, McLean, VA. in the Dranesville Magisterial District. Daily minimum staffing is 14 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,089
Truck	1 Officer/EMT-B 1 Driver/EMT-B 2 Firefighter/EMT-B	1,425
Heavy Rescue (HazMat)	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,300
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,990
Other support units	Cross Staff or Volunteer	168

Population Density: Urban

Number of Fire Boxes: 21

Station Specialties: Fire Station 401 houses one of 4 heavy rescue units staffed by 4 Hazardous Materials Technician Personnel. Fire Station 401 is one of 5 fully staffed hazardous materials resources and has 4 of the 22 required minimum daily staffing in the Hazardous Materials program.

Area Description: Fire Zone 401 is an Urban/Suburban zone of 18.00 Square miles within the 2nd Battalion that serves a population of 45,169. Fire Zone 401 consists of numerous residential, commercial and government high rise complexes. There are several high security/limited access intelligence facilities within the zone.

Dispatches for service over the past 3 years:

2017- 6,927 (0.20% Increase)

2016- 6,913 (5.85% Increase)

2015- 6,531

FY2016 Incident Rate per 1,000 Population = 84.41

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	63.5%	61.2%	51.8%	58.8%
Fire	76.5%	73.8%	63.2%	70.6%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:40	00:01:46	00:01:52	00:01:46
Fire	00:01:43	00:01:42	00:01:56	00:01:49
Technical Rescue	00:01:50	00:01:36	00:01:45	00:01:40
HazMat	00:02:04	00:01:45	00:02:07	00:01:59

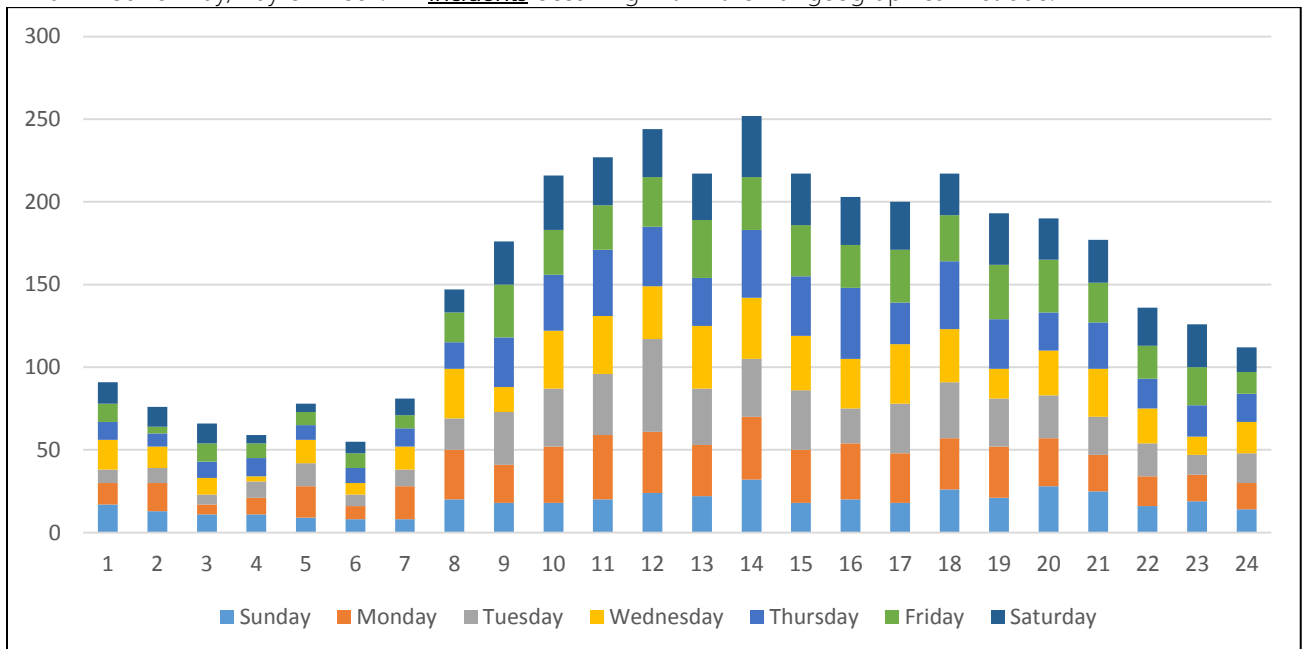
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 01.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	28	23	9	31	18	17	27	153
1	12	31	20	23	12	10	22	130
2	21	12	17	14	19	20	16	119
3	21	16	16	5	18	13	9	98
4	22	25	25	22	12	14	6	126
5	20	19	12	12	24	20	14	121
6	22	30	17	30	23	15	24	161
7	34	59	33	54	27	31	26	264
8	32	42	71	40	65	60	37	347
9	39	61	57	73	68	40	64	402
10	29	81	68	65	60	49	61	413
11	37	50	80	52	62	63	57	401
12	40	38	61	72	66	62	55	394
13	46	64	56	63	64	65	69	427
14	40	50	59	67	70	74	52	412
15	41	52	56	60	75	59	54	397
16	46	66	66	66	53	62	57	416
17	46	45	79	74	89	69	43	445
18	36	69	63	44	51	72	51	386
19	45	51	52	50	46	62	40	346
20	45	38	40	46	47	54	50	320
21	31	38	33	39	45	44	42	272
22	29	28	26	20	34	38	38	213
23	27	24	38	32	26	37	25	209
Total	789	1,012	1,054	1,054	1,074	1,050	939	6,972

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 401 geographical first due.



Major Transportation I-495 (Capital Beltway) runs through Fire Zone 401. State Route 267 (Dulles Toll Rd), I-66, George Washington Memorial Parkway limited access highway patrolled by the U.S. Park Police. State Route 193 (Georgetown Pike). State Route 123 (Chain Bridge Rd, Dolly Madison Blvd)

Major Infrastructure

- Washington Metropolitan Area Transit Authority, Silver line with aerial sections of track, Interstate bridges along I-495, I-66, State Rt. 267.

Major Services and Utilities Numerous electrical substations, elevated water storage tanks at 1766 Chain Bridge Rd, Chesterbrook Rd, Lewinsville Rd pumping stations for the City of Falls Church water/sewer. The City of Falls Church utilizes several 30-48 inch water mains along the Kirby Rd, Westmoreland Rd, Chain Bridge Road corridors to transfer water between several pumping stations.

Medical Facilities -- None

County Schools

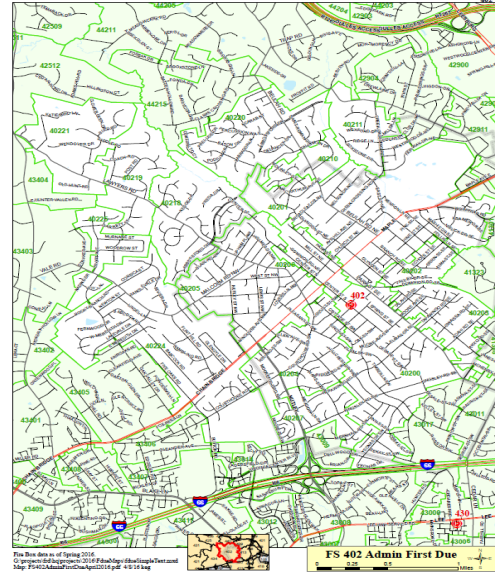
- Chesterbrook Elementary School
- Churchill Road Elementary School
- James Fenimore Cooper Middle School
- Franklin Sherman Elementary School
- Haycock Elementary School
- Kent Gardens Elementary School
- McLean High School
- Langley High School
- Lemon Road Elementary School
- Longfellow Middle School
- McLean High School
- Westgate Elementary School

Governmental Facilities

- Central Intelligence Agency (CIA)- Langley Headquarters
- Liberty Crossing Intelligence Campus
- National Counterterrorism Center
- Dept. of Transportation Turner-Fairbanks Highway Research Center
- US Park Police District Two Station
- Fairfax County McLean Police Station

Primary Target Hazard Fire Numerous residential and commercial high-rises. Several high security government intelligence campus present unique risk for delay access to seat of the fire. Large single family homes with limited access due to small access bridges that do not support heavy fire department apparatus. Large homes with limited water or rural water supply areas.

Primary Target Hazard Non-Fire Numerous vehicle accidents on I-495, I-66, Rt. 267, Rt. 123, Rt. 193. Numerous residential high rises, assisted living facilities and lower income housing in the Pimmit Hills section produces numerous calls for medical assistance. Sometimes this includes several calls simultaneously. During the summer months calls for service to Great Falls Park and Scotts Run increase time needed to reach patients due to terrain and limited access. A large number of VIP's, CEO's, and International/Federal Government Officials live in the first due area.

DEMAND ZONE 402

Fire Station 402 (Vienna) is located at 400 Center Street SW, Vienna, VA. in the Hunter Mill Magisterial District. Daily minimum staffing is 6 uniformed personnel. Vienna Volunteer Fire Department operates a number of support apparatus out of the facility. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,617
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,502
Brush Unit	Cross staffed- E402	11
BLS-E*	Staffed for events-Volunteers	290
Canteen Unit *	Staffed by Volunteers	20
Other support Units	Staffed by Volunteers	34

Population Density: Urban

Number of Fire Boxes: 16

Area Description: Demand Zone 402 encompasses the town of Vienna and is an urban zone of 7.19 square miles located within the 2nd Battalion that serves a population of 24,143. There are approximately 15,687 people, 5,528 households, and 4,215 families residing within the city boundaries of Vienna. The zone consists of Type III and V single family structures and an older Type III downtown core area.

Dispatches for service over the past 3 years:

2017- 3,474 (4.36% Increase)

2016- 3,329 (0.36% Decrease)

2015- 3,341

FY2016 Incident Rate per 1,000 Population = 70.12

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	66.7%	62.3%	56.0%	61.5%
Fire	81.0%	70.0%	57.4%	67.6%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:38	00:01:42	00:01:52	00:01:46
Fire	00:01:29	00:01:41	00:01:51	00:01:43
Technical Rescue	00:01:57	00:01:23	00:02:02	00:01:57
HazMat	00:01:31	00:01:55	00:01:21	00:01:42

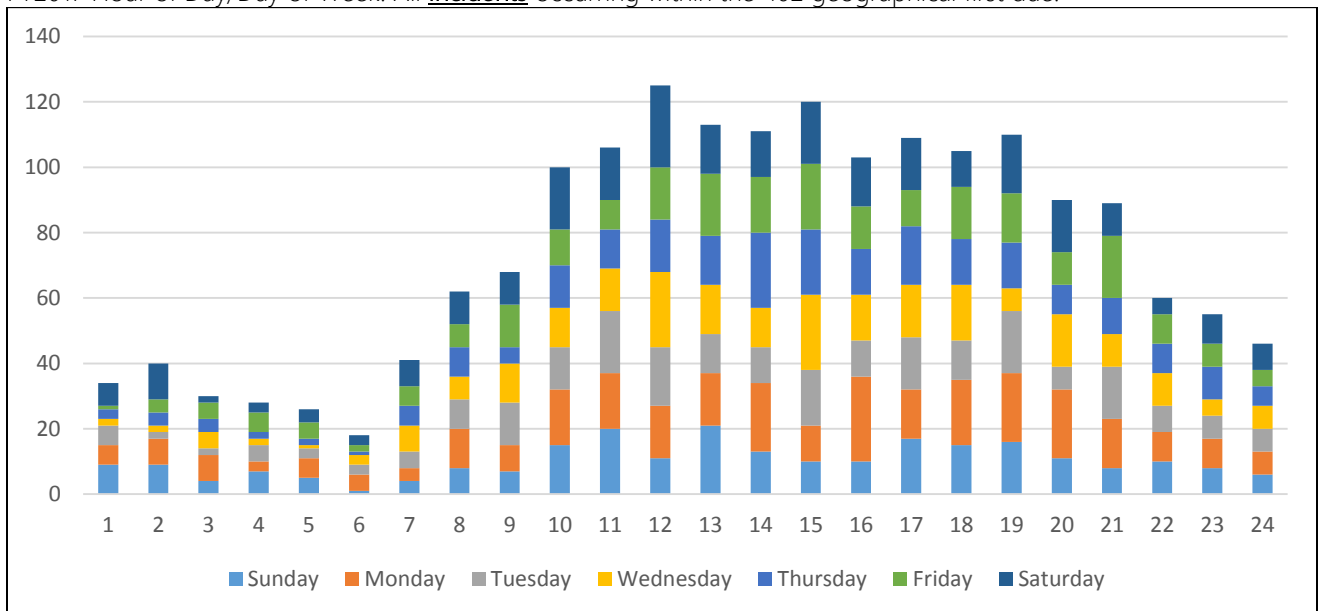
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 02.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	14	5	10	5	6	2	16	58
1	20	14	6	5	6	9	18	78
2	5	11	6	10	10	11	10	63
3	13	6	8	4	4	10	6	51
4	6	8	5	2	2	11	8	42
5	4	6	5	10	4	7	8	44
6	6	7	8	10	9	10	13	63
7	14	17	14	14	11	10	23	103
8	15	20	27	25	17	23	23	150
9	27	31	31	33	26	29	33	210
10	29	37	31	24	29	23	32	205
11	18	35	38	37	29	25	38	220
12	38	31	20	27	29	25	19	189
13	20	39	16	29	35	40	25	204
14	18	25	37	45	43	33	33	234
15	30	44	30	28	29	27	33	221
16	31	28	25	32	26	23	30	195
17	33	34	27	28	29	33	25	209
18	23	35	31	21	24	35	31	200
19	13	36	21	38	25	20	33	186
20	13	25	33	28	19	42	20	180
21	20	21	31	26	20	22	15	155
22	13	17	14	19	24	20	13	120
23	8	12	16	14	14	13	17	94
Total	431	544	490	514	470	503	522	3,474

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 402 geographical first due.



Major Transportation Arterials

- I-66
- U.S. 29
- VA 7
- VA 267 (Dulles Toll Road)
- VA 243 (Nutley Street)
- VA 123 (Maple Avenue)

Major Infrastructure Washington and Old Dominion (W&OD) Trail, historic Church Street, large commercial area, Waters Field. The town government of Vienna.

Major Services and Utilities

- Verizon Switching Station
- Vienna Water Towers

Medical Facilities

- INOVA Urgent Care

County Schools

- James Madison High School
- Wolftrap Elementary School
- Vienna Elementary School
- Cunningham Park Elementary School
- Marshall Road Elementary School
- Louise Archer Elementary School
- Flint Hill Elementary School

Governmental Facilities

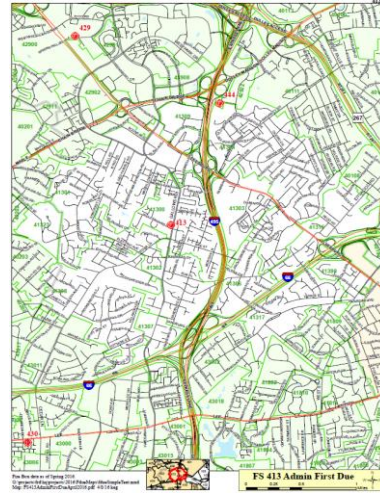
- U.S. Postal Service
- Vienna Town Hall
- Vienna Community Center
- Vienna Police Department
- Vienna Public Library

Primary Target Hazard Fire

- Verizon Switching Station
- Vienna Inn
- Commercial retail building
- Older balloon frame homes in rural water supply areas

Primary Target Hazard Non-Fire

Washington and Old Dominion Trail system (W&OD). Calls for emergency medical assistance by large elderly population including fixed facilities. Vehicle accidents along major arterials have the potential to be high speed collisions. Historic Church Street, large elderly population, large commercial area, Waters Field, town activities involving large gathering of people. Older homes, some possible balloon frame and rural water supply areas.

DEMAND ZONE 413

Fire Station 413 (Dunn Loring) is located at 2148 Gallows Road, Dunn Loring, VA. in the Providence Magisterial District. Daily minimum staffing is 7 uniformed personnel. Dunn Loring Volunteer Fire Department may staff BLS unit at times. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,686
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,343
Safety Officer	1 Officer/EMT-B	1,124
Rehab Unit	Cross Staffed by Medic/Engine	25
Other support units	Staffed by Volunteers	330

Population Density: Urban

Number of Fire Boxes: 18 (All Urban)

Station Specialties: Fire Station 413 houses Safety 403 which is one of three fully staffed safety officer positions. Fire Station 413 also houses a cross staffed rehab unit.

Area Description: Fire Zone 413 is an urban zone of 5.66 square miles within the 2nd Battalion that serves a population of 31,603. The area consists of multiple high-rise buildings with a mix of residential and commercial, sprinkled and un-sprinkled. In addition, there are a large number of Type III and V construction garden style apartments built from 1950 to 1980. Fire Zone 413 is bordered on the north by Zones 429 and 401, the south by Zone 430, the east by mutual aid agency Arlington County (106) and the west by Zone 402 and 442.

Dispatches for service over the past 3 years:

2017- 6,508 (1.26% Decrease)

2016- 6,591 (6.35% Increase)

2015- 6,140

FY2016 Incident Rate per 1,000 Population = 93.88

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	74.5%	65.9%	66.4%	68.9%
Fire	79.2%	82.5%	62.2%	74.7%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:36	00:01:44	00:01:45	00:01:42
Fire	00:01:45	00:01:35	00:02:07	00:01:54
Technical Rescue	00:02:01	00:02:03	00:02:06	00:02:02
HazMat	00:01:43	00:02:04	00:02:11	00:02:06

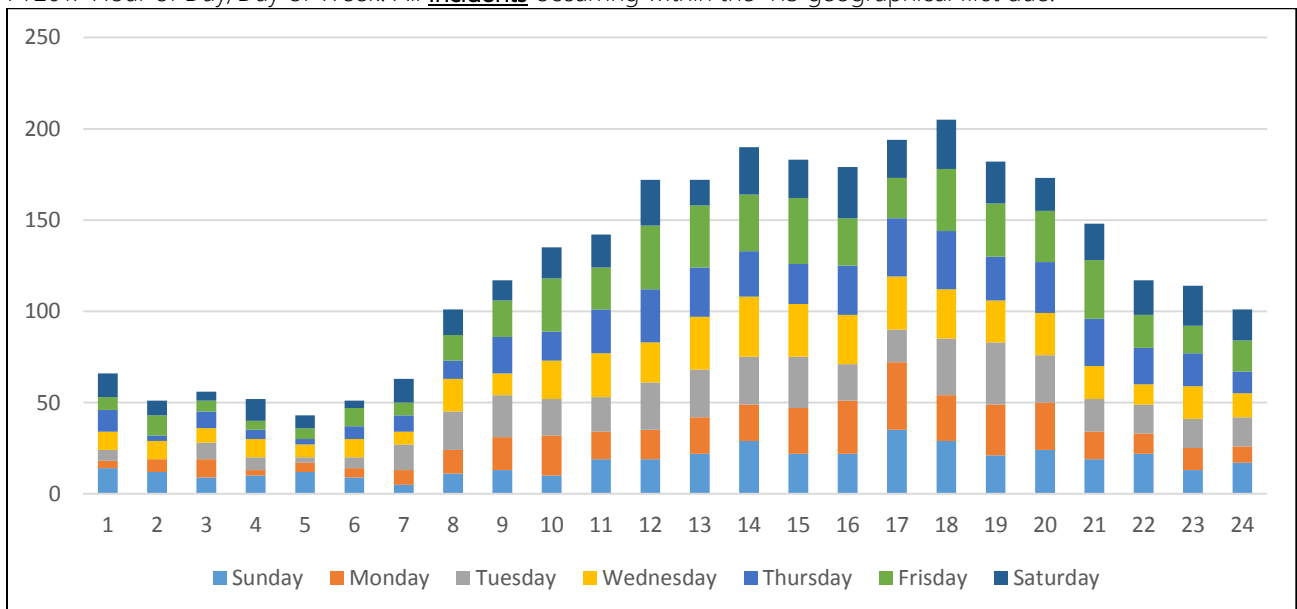
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 13.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	34	13	11	16	22	14	31	141
1	24	18	8	15	9	23	19	116
2	28	19	19	18	13	19	18	134
3	24	6	14	19	16	9	22	110
4	31	13	7	12	8	11	15	97
5	17	15	17	21	22	25	10	127
6	19	15	25	16	21	15	30	141
7	26	41	33	44	20	22	33	219
8	28	40	42	36	42	43	29	260
9	22	39	65	52	35	55	59	327
10	38	55	45	53	62	50	41	344
11	35	46	65	43	43	42	49	323
12	44	42	51	54	62	68	52	373
13	68	51	49	55	61	66	62	412
14	43	62	47	68	64	66	38	388
15	63	52	52	51	60	53	63	394
16	65	58	45	62	68	49	50	397
17	62	45	62	40	49	64	50	372
18	53	59	79	54	57	59	47	408
19	58	44	62	48	61	50	50	373
20	32	36	36	44	50	59	46	303
21	43	33	43	39	53	47	43	301
22	30	28	34	35	33	36	42	238
23	28	28	32	25	25	38	34	210
Total	915	858	943	920	956	983	933	6,508

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 413 geographical first due.



Major Transportation

- Interstate 495 (Capital Beltway) which is an 8-lane highway (including the E-ZPass lanes).
- Interstate 66 which is a 6-lane divided highway
- Washington Metropolitan Area Transit Authority-Orange Metro line
- State Route 7 (Leesburg Pike)
- State Route 123

Major Infrastructure

- I-495 which is an 8-lane controlled access interstate with additional express lanes as part of the Capital Beltway.
- I-66 is a 6 lanes divided and controlled access interstate roadway.
- State Route 7 is mostly 4-6 lanes of traffic with a high traffic density.
- Washington Metropolitan Area Transit Authority-Metro Silver line and Orange line, ground level and above ground stations.

Major Services and Utilities Zone 413 does not have any major utility facilities.

Medical Facilities

- Cedar Medical Building – 2235 Cedar Lane
- United Medical Corp. – 1980 Gallows Road
- Iliff Nursing Rehabilitation Center – 8000 Iliff Drive.

County Schools

- Freedom Hill Elementary School – 1945 Lord Fairfax Road.
- George C. Marshall H.S – 7731 Leesburg Pike
- George Mason H.S. – 7124 Leesburg Pike (Falls Church)
- Kilmer Center – 8102 Wolftrap Road.
- Joyce Kilmer Middle School – 8100 Wolftrap Road.
- Lemon Road Elm. School – 7230 Idylwood Road.
- Shreveewood Elem. School – 7525 Shreve Road.
- Stenwood Elm. School – 2620 Gallows Road
- Westgate Elm. School – 7500 Magarity Road

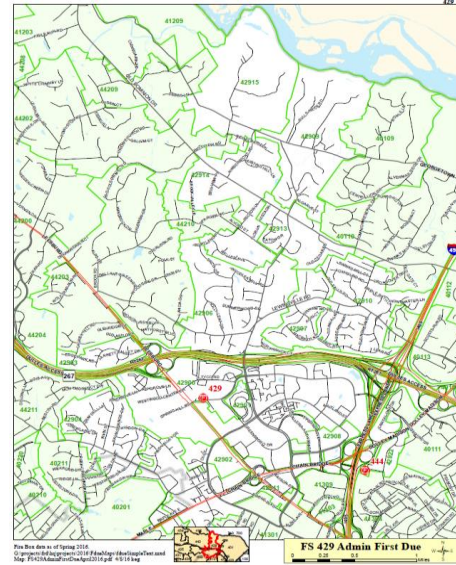
Governmental Facilities

- Fairfax County Fire Station 413
- Navy Federal Financial – 1007 Electric Ave
- Korea – US Science Corp Center – 1952 Gallows Rd.

- Department of Motor Vehicles – 1968 Gallows Road
- Saudi Arabia Business Center – 8081 Wolftrap Road.
- U.S. Post Office – 2302 Gallows Road

Primary Target Hazard Fire Tysons Corner Center located at 1961 Chain Bridge Road. Low income single family homes in the Pimmit Hills area, multiple garden apartments, high rise apartment buildings, high capacity hotels and multiple town home complexes.

Primary Target Hazard Non-Fire Vehicle accidents along I-495, I-66 and Route 7 (Leesburg Pike) have the potential to be high speed collisions. Calls for emergency medical assistance often occur in residential high-rise buildings and calls for medical service in lower income areas of Pimmit Hills and Tysons Mall. Zone 413 has several “soft” terrorist targets such as the Tysons Mall, our numerous schools, churches and high vehicle traffic areas.

DEMAND ZONE 429

Fire Station 429 (Tysons Corner) is located at 1560 Spring Hill Road, McLean, VA. in the Providence Magisterial District. Daily minimum staffing is 11 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	3,114
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,383
Truck-Tiller	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,424
Battalion 402	1 Officer/EMT-B	652
Mass Casualty Unit 429	Cross Staffed	0

Population Density: Urban

Number of Fire Boxes: 16

Station Specialties: Fire Station 429 serves as Battalion 402 headquarters and houses one of the county's Mass Casualty Units and ATV unit which are cross staffed by duty crew.

Area Description: Fire Zone 429 is an urban zone of 7.04 square miles with within the 2nd Battalion that serves a night-time population of 19,232. The area consists of high-rise buildings and a large number of garden style apartments of Type III and V construction Built from 1960-

1980. The high-rise buildings consist of residential and commercial, sprinkled and un-sprinkled. Tysons Corner has two super-regional shopping malls—Tysons Corner Center and Tysons Galleria—and the corporate headquarters of numerous companies such as Intelsat, Gannett (publisher of USA Today), Hilton Worldwide, Freddie Mac, Capital One and Booz Allen Hamilton. Tysons is Fairfax County's central business district and a regional commercial center with over 45 million square feet of commercial space planned or operating currently. Tysons Corner is the 12th largest employment center in the United States and U.S. Census estimates the daytime population at over 100,000.

Dispatches for service over the past 3 years:

2017- 8,573 (8.40% Increase)

2016- 7,909 (2.34% Increase)

2015- 7,728

FY2016 Incident Rate per 1,000 Population = 164.56

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	67.0%	70.9%	72.6%	70.3%
Fire	71.3%	86.3%	81.9%	80.5%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:32	00:01:32	00:01:29	00:01:31
Fire	00:01:43	00:01:28	00:01:45	00:01:40
Technical Rescue	00:01:52	00:01:26	00:01:54	00:01:51
HazMat	00:01:49	00:01:26	00:01:56	00:01:46

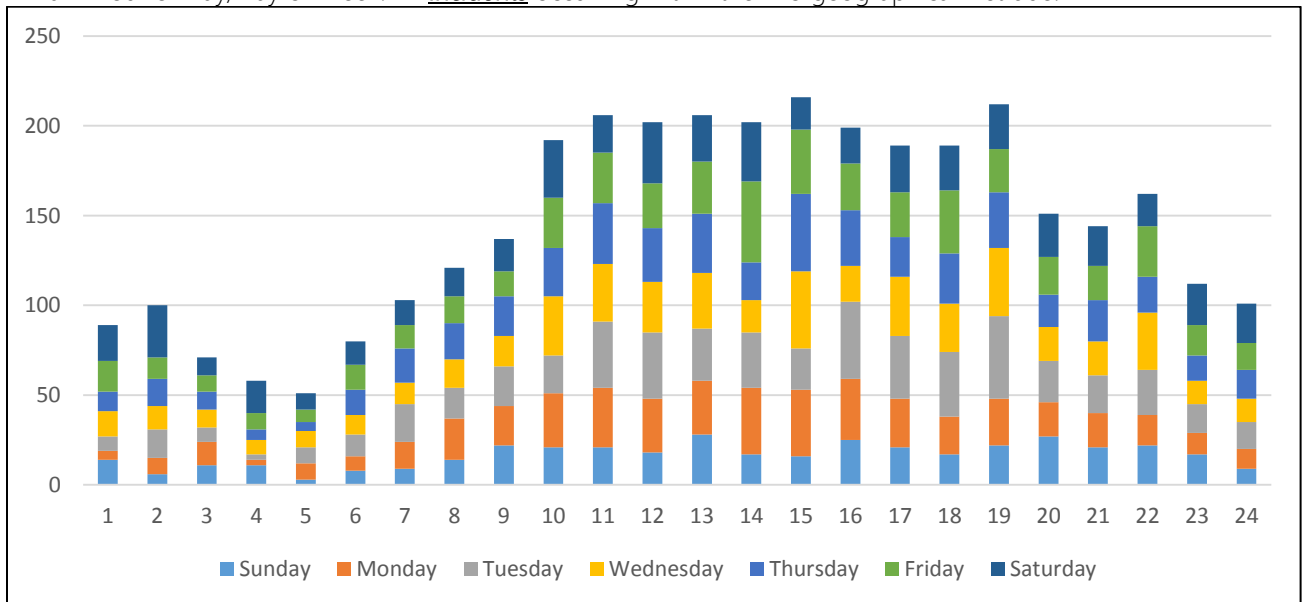
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 29.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	34	12	21	27	32	34	42	202
1	21	24	29	32	27	24	57	214
2	25	38	18	18	26	23	23	171
3	22	8	10	19	9	23	27	118
4	17	22	21	19	13	14	19	125
5	24	17	25	31	32	33	32	194
6	20	33	45	26	43	39	33	239
7	30	53	44	52	39	37	41	296
8	45	56	58	54	55	42	39	349
9	40	53	64	83	65	55	81	441
10	52	70	90	71	75	58	48	464
11	45	67	86	62	75	70	77	482
12	66	67	65	69	89	78	64	498
13	55	74	69	68	70	95	72	503
14	39	77	71	83	85	83	45	483
15	59	83	85	53	109	74	70	533
16	70	76	69	90	67	58	64	494
17	47	60	80	77	88	98	73	523
18	67	73	130	83	74	75	69	571
19	64	61	72	46	54	64	75	436
20	50	45	55	52	56	53	51	362
21	50	39	52	70	49	60	42	362
22	37	28	42	33	45	32	55	272
23	31	26	35	22	37	37	53	241
Total	1,010	1,162	1,336	1,240	1,314	1,259	1,252	8,573

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 429 geographical first due.



Major Transportation

- State Route 123 (Chain Bridge Road) which is a 4-lane thoroughfare.
- State Route 7 (Leesburg Pike) 4-6 lanes of traffic with a high traffic density.
- Interstate 495 (The Capital Beltway) 8-lane controlled access with 4 HOV lanes.
- Dulles Toll Road/Access Road (Rt 267), 6 lane controlled access with 4 express lanes.
- The Washington Metro-Silver Line has a tunneled system under Zone 429.

Major Infrastructure

- Fairfax County Public Safety Communications radio tower-Tysons Corner

Major Services and Utilities

- Fairfax Water maintains the Tysons Corner Storage Facility, an underground water storage facility

Medical Facilities

- Kaiser Permanente operates the Tysons Corner Medical Center which includes more than 200,000 square feet of care and service and is the largest medical center in Virginia.
- Sunrise Assisted Living Center

County Schools

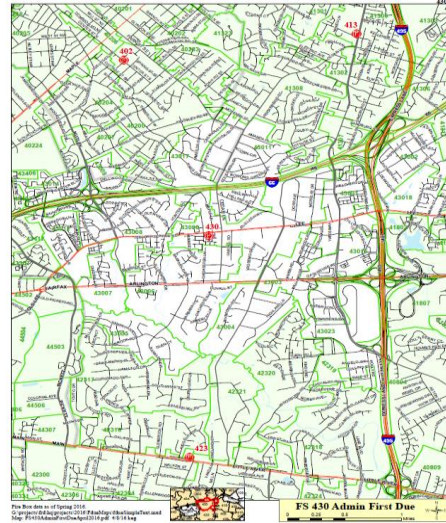
- Spring Hill Elementary School
- Westbriar Elementary School

Governmental Facilities

- Central Intelligence Agency Field Offices
- National Security Agency Field Offices
- Fairfax County Government Field Offices
- U.S. Post Office

Primary Target Hazards Fire Mixed-use commercial occupancies reside along Leesburg Pike and Chain Bridge Road. The Rotunda, a 5 building complex with 10 story residential condominiums. Additionally, numerous garden style apartment complexes house a high population of this zone's residents. Unique building construction features exist throughout this zone including bowstring truss roofs, trash chutes, storage areas as well as many vacant structures. The zone also includes a variety of limited access, large square footage private residential dwellings which exceed 5,000 square feet in residential living space. 45 Million square feet of commercial space operating or under development.

Primary Target Hazards Non-Fire Vehicle accidents along the Interstate I-495, toll road, and Leesburg Pike have the potential to be high speed collisions. The increased residential population and urban street walking design leads to vehicle/pedestrian collisions. Daytime population increase calls for emergency medical assistance in residential high-rise buildings and commercial and retail outlets and two malls. Calls for service from Ty Spring Street and Sunrise Assisted Living retirement community account for many EMS incidents.

DEMAND ZONE 430

Fire Station 430 (Merrifield) is located at 8739 Lee Highway, Fairfax, VA. in the Providence Magisterial District. Daily minimum staffing is 12 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	3,317
Truck-Tiller	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,009
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,765
Operations Deputy Chief	1 Officer/EMT-B 1 Command Officer	Monitors all calls for response.
Mobile Command Post	Cross Staffed	5

Population Density: Urban

Number of Fire Boxes: 12

Station Specialties: Fire Station 430 serves as the Operations Deputy headquarters and houses the mobile command post which is cross staffed by the on-duty crews.

Area Description: Fire Zone 430 is an urban zone of 6.19 square miles within the 2nd Battalion that serves a population of 38,607. The area consists of Type-III & V single family, townhomes, and garden apartments. The INOVA medical research campus and Fairfax Hospital are within Zone 430. The zone also consists of high-rise buildings (residential and commercial) that are

sprinkled and a large number of new mid-rise buildings that have commercial occupancies on the ground level with residential living above it.

Dispatches for service over the past 3 years:

2017- 8,096 (3.86% Increase)

2016- 7,795 (8.82% Increase)

2015- 7,163

FY2016 Incident Rate per 1,000 Population = 99.62

FY2016 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	81.9%	69.3%	59.5%	70.4%
Fire	94.4%	76.2%	74.3%	80.7%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:17	00:01:31	00:01:49	00:01:32
Fire	00:01:12	00:01:36	00:01:45	00:01:35
Technical Rescue	00:01:20	00:01:36	00:01:30	00:01:33
HazMat	00:01:20	00:01:37	00:01:45	00:01:39

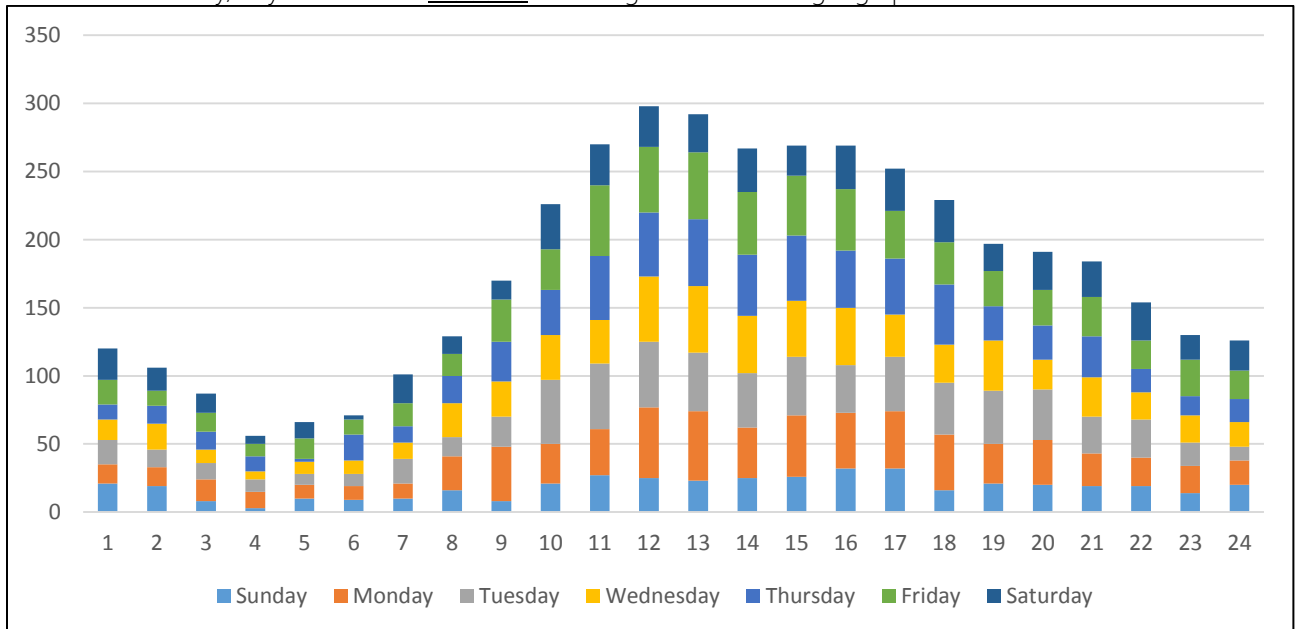
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 30.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	39	28	33	28	14	31	41	214
1	37	26	25	33	23	30	28	202
2	19	33	19	16	23	27	28	165
3	14	22	22	19	18	14	14	123
4	24	18	12	19	4	33	20	130
5	17	23	22	21	31	30	11	155
6	17	22	37	29	28	36	35	204
7	22	50	31	54	51	30	32	270
8	13	64	50	47	51	61	35	321
9	45	49	80	63	71	54	65	427
10	63	70	90	64	85	85	63	520
11	58	77	84	85	89	78	64	535
12	39	80	78	78	82	83	54	494
13	54	60	67	77	96	71	73	498
14	46	69	81	73	82	77	42	470
15	54	81	69	66	75	69	62	476
16	56	72	73	57	73	63	64	458
17	40	68	72	68	71	65	62	446
18	50	62	81	59	57	64	48	421
19	48	65	66	50	54	49	55	387
20	42	52	52	67	57	55	57	382
21	39	34	56	37	33	50	44	293
22	35	39	37	34	40	50	39	274
23	35	32	22	36	38	40	28	231
Total	906	1,196	1,259	1,180	1,246	1,245	1,064	8,096

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 430 geographical first due.



Major Transportation

- Interstate 66.
- Interstate 495 (Capital Beltway).
- State Route 50 (Lee Hwy) a heavily traveled road running through Zone 430.
- Washington Transit Authority Metro-Orange Line Dunn Loring and Vienna Metro stations. Both stations have multiple large parking garages.

Major Infrastructure

- INOVA Fairfax Hospital Campus is a large hospital that has many buildings on site to include the Heart and Lung Center and a Level I Trauma Center with a Women and Children's Hospital along with 2 Heliports that are located on the hospital property.
- Dunn Loring and Vienna Metro stations
- Fairfax County Public Safety Communications radio tower-Merrifield

Major Services and Utilities

- Propane Taxi-major propane distribution center
- Waste Management Company

Medical Facilities

- INOVA Fairfax Hospital
- INOVA Doctor Offices -- several through the First Due

County Schools

- Fairfax County Public Schools Administrative main offices
- Luther Jackson Middle School
- Marshall Road. Elementary School
- Fairhill Elementary School

Governmental Facilities

- Large Merrifield U.S. postal sorting Facility.
- Providence District Supervisor's Office.
- Saudi Arabian Cultural Mission to the USA
- Immigration and Customs Enforcement holding Facility

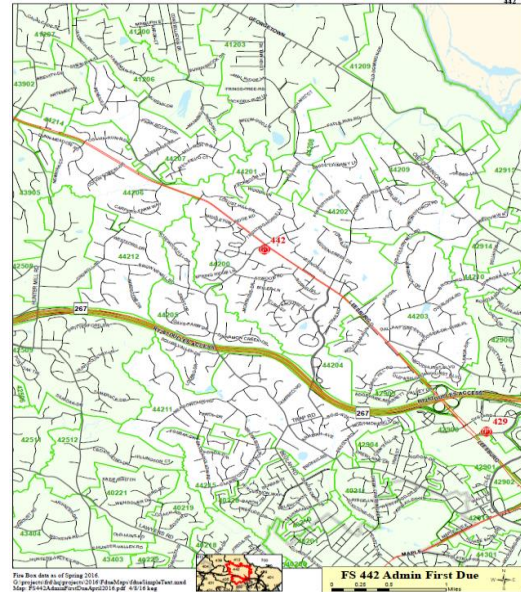
Primary Target Hazard Fire

The Propane Taxi has an evacuation distance of 2 miles in all directions in case of fire. The large nursing home (Virginian) has numerous life hazard risks. The large footprint mid-rise buildings present a challenge with apparatus positioning, access and the floor layout design. Numerous car repair locations along with marble repair, waste management facility, and large warehouses.

Primary Target Hazard Non-Fire

Vehicle accidents along I-66 and I-495 have potential for high speed collisions and limited entry and exit points on the interstate. The I-495 Hot lanes have high risk for vehicle accidents as several units are needed for scene protection due to numerous travel lanes that need to be protected. Calls for emergency medical assistance often occur in doctor offices or at the nursing homes. The Metro has potential for service due to 2 large Metro stations that are in Zone 430.

DEMAND ZONE 442



Fire Station 442 (Wolftrap) is located at 1315 Beulah Road, Vienna, VA. in the Dranesville Magisterial District. Daily minimum staffing is 8 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,213
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,259
Tanker	1 Driver/EMT-B	157
EMS Supervisor	1 Officer/EMT-P	1,213
UTV 442	Cross Staffed	15

Population Density: Urban/Rural mix

Number of Fire Boxes: 13

Station Specialties: Fire Station 442 houses the EMS Supervisor for the 2nd Battalion, EMS402

Area Description: Demand Zone 442 is an urban/rural zone of 10.99 square miles within the 2nd Battalion that serves a population of 14,307. The area consists of Type-V medium-large sized single family estates. The majority of Zone 442 is either non-hydrated or limited water supply. Zone 442 has a 228,000 square foot McLean Bible Church campus. Meadowlark Botanical

Gardens Park and Wolf Trap National Park that sits on 108 acres bring large crowds to differing entertainment venues.

Dispatches for service over the past 3 years:

2017- 3,857 (5.90% Increase)

2016- 3,642 (8.59% Increase)

2015- 3,354

FY2016 Incident Rate per 1,000 Population = 67.17

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	59.2%	71.6%	48.1%	60.6%
Fire	59.0%	84.5%	52.0%	66.7%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:57	00:01:37	00:02:09	00:01:57
Fire	00:02:13	00:01:47	00:02:38	00:02:06
Technical Rescue	00:02:11	00:01:33	00:02:35	00:02:05
HazMat	00:01:51	00:01:12	00:02:05	00:01:51

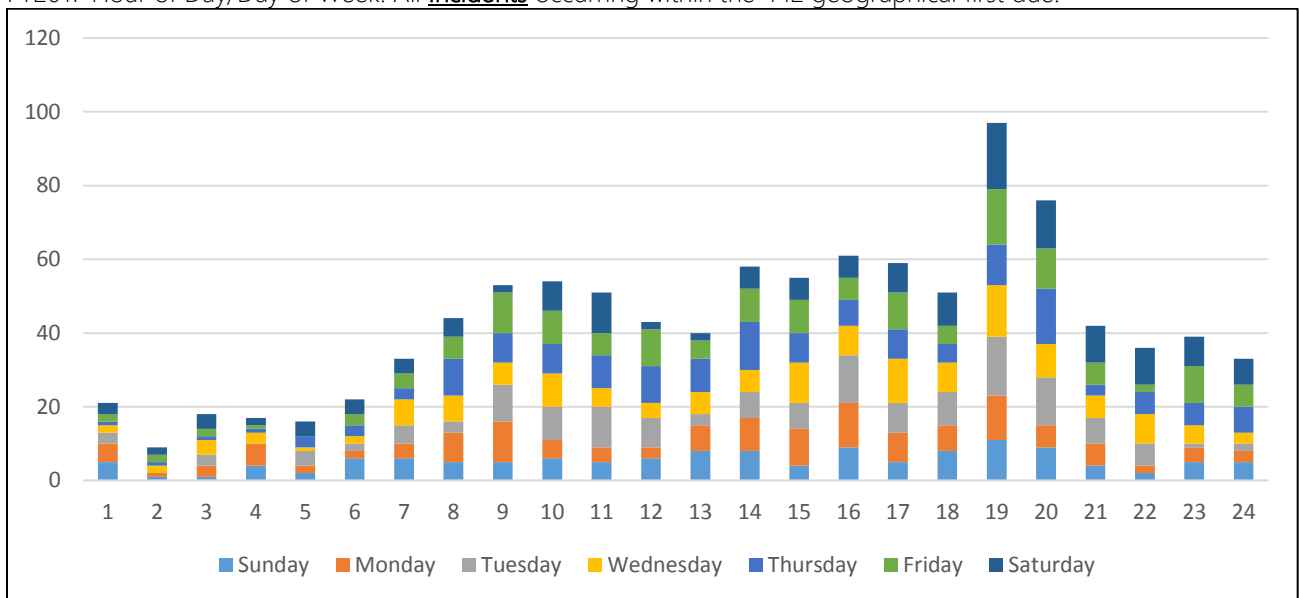
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 42.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	17	18	8	7	3	11	12	76
1	4	9	2	6	6	9	8	44
2	10	12	14	8	6	9	15	74
3	14	10	4	7	5	2	6	48
4	7	4	12	4	5	2	8	42
5	14	3	7	13	13	10	13	73
6	18	8	14	14	11	10	10	85
7	11	18	8	26	21	13	25	122
8	12	31	31	25	24	29	13	165
9	23	22	33	29	28	28	27	190
10	23	27	40	37	37	41	29	234
11	27	31	38	33	32	30	33	224
12	25	31	34	32	40	30	26	218
13	26	42	28	29	35	36	32	228
14	22	36	30	54	37	48	24	251
15	26	37	51	25	33	34	30	236
16	24	42	38	51	42	35	32	264
17	34	35	39	28	36	38	33	243
18	35	40	46	35	36	40	39	271
19	23	31	25	25	38	28	38	208
20	18	22	30	28	18	27	31	174
21	15	13	29	28	28	13	24	150
22	13	9	10	15	22	19	35	123
23	19	13	14	9	16	19	24	114
Total	460	544	585	568	572	561	567	3,857

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 442 geographical first due.



Major Transportation

- State Route 7 (Leesburg Pike) which is 4 lane divided highway running north and south.
- State Route 267 (Dulles Toll Road) which is an 8-lane divided controlled access toll road that runs east to west.
- State Route 267 (Dulles Access Road) which is a 4-lane limited access divided highway to Dulles International Airport.
- Washington Metropolitan Area Transit Authority- Metro Rail Silver line runs through the area with no stops.

Major Infrastructure

- Metro Traction Power Substations for Silver Line
 - 9614 Chatham's Ford Drive Vienna, VA 22182
 - 1613 Trap Road Vienna, VA 22182

Major Services and Utilities

- Cellular Tower 1137 Walker Road, Great Falls, VA 22066
- Cellular Tower 1236 Downey Drive, Vienna, VA 22182
- Fairfax County - Colvin Run Septic Site, 9950 Colvin Run Road, Great Falls, VA 22066
- High tension power lines that run along W&OD Trail

Medical Facilities

- Brightview Senior Living, 10200 Colvin Run Road, Great Falls, VA 22066
- McLean Bible Church – Jill's House, 9011 Leesburg Pike, Vienna, VA 22182 (Short-term and overnight respite care for children with special needs.)

County Schools

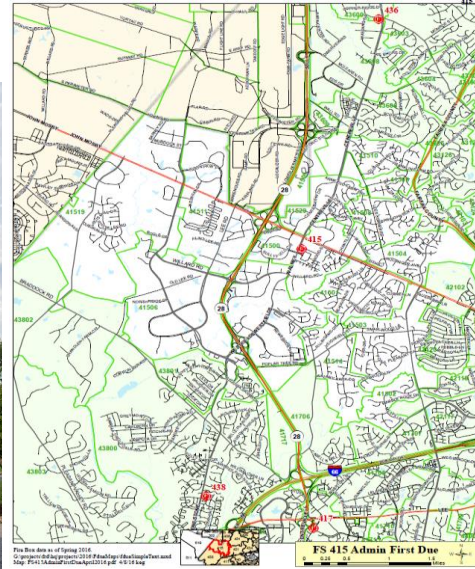
- Colvin Run Elementary School

Governmental Facilities

- U.S. Post Office
- Fairfax County Fire Station 442

Primary Target Hazard Fire The non-hydrated limited water supply areas of Zone 442. The large estate homes. The amphitheater located on the Wolf Trap National Park. McLean Bible Church which has approx. 8,000 people attending services through the weekend.

Primary Target Hazard Non-Fire 228,000 square foot McLean Bible Church with approximately 8000 parishioners attending services over the weekend. Wolf Trap National amphitheater in summer time for concert goers. An increase in accident dispatches on Leesburg Pike and Dulles Toll Road. Multiple emergency service requests for retirement community.

DEMAND ZONE 415

Fire Station 415 (Chantilly) is located at 14005 Vernon Street, Chantilly, VA. in the Sully Magisterial District. Daily minimum staffing is 7 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Call Volume
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,430
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,104
Safety Officer	1 Officer/EMT-B	850
Brush Unit	Cross Staffed by Medic/Engine	22

Population Density: Urban

Number of Fire Boxes: 14

Station Specialties: Fire Station 415 houses Safety 402 which is one of three fully staffed safety officer positions.

Area Description: Fire Zone 415 is an urban area of 12.9 square miles within the 3rd Battalion that serves a population of 29,995. The area consists of dense commercial structures, strip malls and big box type chain store. There is a mix of government facilities, home improvement centers, auto dealerships, auto body repair/paint shops, hotels, restaurants, and churches. Zone 415 has primarily Type-V single family dwellings, townhomes, and open stairwell garden apartments.

Dispatches for service over the past 3 years:

2017 - 5,407 (0.81% Decrease)

2016 - 5,451 (7.45% Increase)

2015 - 5,073

FY2016 Incident Rate per 1,000 Population = 92.58

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	54.9%	59.9%	60.3%	58.4%
Fire	74.3%	78.6%	71.6%	75.0%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:58	00:01:44	00:01:46	00:01:50
Fire	00:01:48	00:01:57	00:01:54	00:01:54
Technical Rescue	00:02:04	00:01:50	00:01:42	00:01:54
HazMat	00:02:07	00:01:44	00:01:54	00:02:00

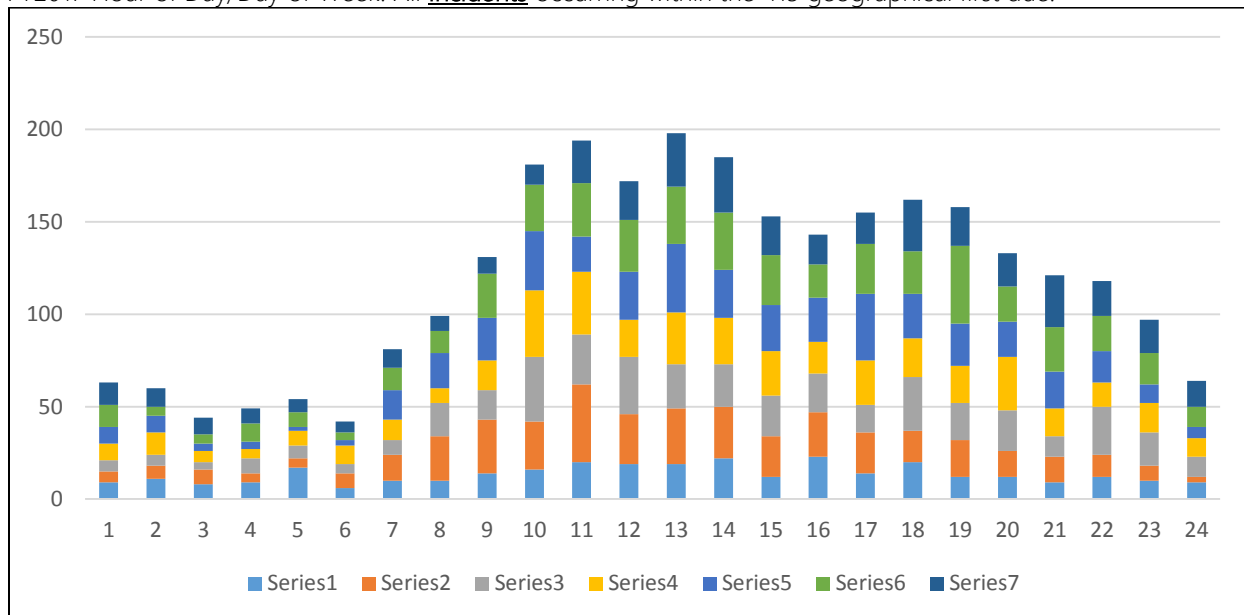
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 15.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	25	15	12	16	13	24	22	127
1	24	15	8	20	17	16	16	116
2	17	19	15	12	6	9	17	95
3	17	10	10	7	7	17	12	80
4	31	6	9	12	4	12	21	95
5	9	17	15	14	13	12	13	93
6	21	24	20	21	34	30	21	171
7	16	43	34	20	35	14	22	184
8	25	48	42	39	44	45	17	260
9	29	44	53	67	52	37	28	310
10	41	54	51	49	42	57	43	337
11	41	40	58	38	47	44	37	305
12	30	44	41	49	55	43	57	319
13	37	44	46	44	44	60	58	333
14	26	41	44	31	48	50	37	277
15	40	48	46	47	50	40	35	306
16	21	60	31	48	56	48	32	296
17	38	52	61	41	44	46	45	327
18	30	41	45	37	40	69	45	307
19	37	23	45	56	37	31	40	269
20	25	29	27	29	36	38	44	228
21	23	33	46	36	31	42	35	246
22	20	23	30	33	22	28	35	191
23	21	13	15	20	14	27	25	135
Total	644	786	804	786	791	839	757	5,407

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 415 geographical first due.



Major Transportation

- State Rt. 28 (Sully Road)
- State Rt. 50 (Lee Jackson Memorial Highway)

Major Infrastructure None

Major Services and Utilities

- Colonial gasoline pipeline
- Dominion Power high tension lines
- Verizon switching stations
- Columbia Gas pipeline
- Trans Continental Pipeline
- Washington Dulles International Airport Pipelines/Fuel Tanks

Medical Facilities

- Patient First medical clinic
- Arden Courts of Fair Oaks
- Northern Virginia Natural Birth Center

County Schools

- Poplar Tree Elementary School
- Greenbriar West Elementary School
- Lees Corner Elementary School
- Brookfield Elementary School
- Franklin Middle School
- Rocky Run Middle School
- Chantilly High School
- Westfield High School

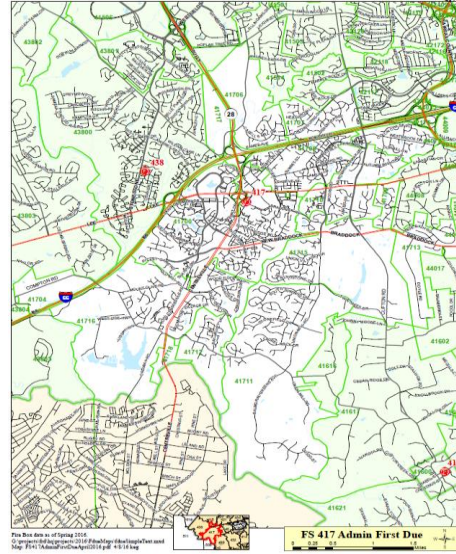
Governmental Facilities

- National Reconnaissance Office
- U.S. Marshal Service, Training Academy
- Fairfax County Police Academy
- Fairfax County Police driving range
- Fairfax County Police shooting range
- Fairfax County mental health
- Fairfax County Cub Run Recreation Center
- Fairfax County Detox Center
- Fairfax County Water Authority
- Sully historic site

- U.S. Post Office
- Fairfax County Library
- Virginia Department of Transportation

Primary Target Hazard Fire UPS and FedEx facilities, Amazon server farm, Quest Diagnostics, Direct Cremation services of VA, Heavenly Paws Cremation, Cremation Society of Virginia, Nutravail Technologies, non-sprinkler strip shopping centers, Washington Dulles airport flight path.

Primary Target Hazard Non-Fire NRO, Air Marshal Academy, Police Academy, FBI, CIA, DEA, Sully Plantation, World Bank, Aerospace, Westfield Marriott, Dulles Expo Center, Boeing, Northrop Grumman, Saint Timothy Catholic Church, Ahmadiyya Muslim Community, various churches.

DEMAND ZONE 417

Fire Station 417 (Centerville) is located at 5856 Old Centerville Road, Centerville, VA. in the Sully Magisterial District. Daily minimum staffing is 6 uniformed personnel. Centerville Volunteer Fire Department will staff a support BLS unit at times. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Call Volume
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,706
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,225
Canteen Unit	Staffed by Volunteers	18
ALS Unit-Echo	Staffed by Volunteers	103
Other support units	Cross Staffed and Volunteer	109

Population Density: Urban

Number of Fire Boxes: 14

Area Description: Fire Zone 417 is an urban area of 15.29 square miles in the 3rd Battalion that serves a population of 52,750 on the western end of Fairfax County. The zone consists of predominantly Type-V single family, open stairwell garden apartments, and townhomes. Commercial strip malls and stand-alone commercial buildings are spread out along State Rt.29 (Lee Highway) and State Rt. 28 (Sully Road).

Dispatches for service over the past 3 years:

2017- 5,161 (5.67% Decrease)

2016- 5,478 (5.94% Increase)

2015- 5,171

FY2016 Incident Rate per 1,000 Population = 56.47

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	61.5%	62.6%	51.9%	58.5%
Fire	52.2%	76.76%	62.2%	64.7%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:44	00:01:37	00:01:56	00:01:46
Fire	00:01:55	00:01:38	00:01:47	00:01:53
Technical Rescue	00:02:03	00:01:24	00:02:04	00:02:01
HazMat	00:02:04	00:01:21	00:02:05	00:01:59

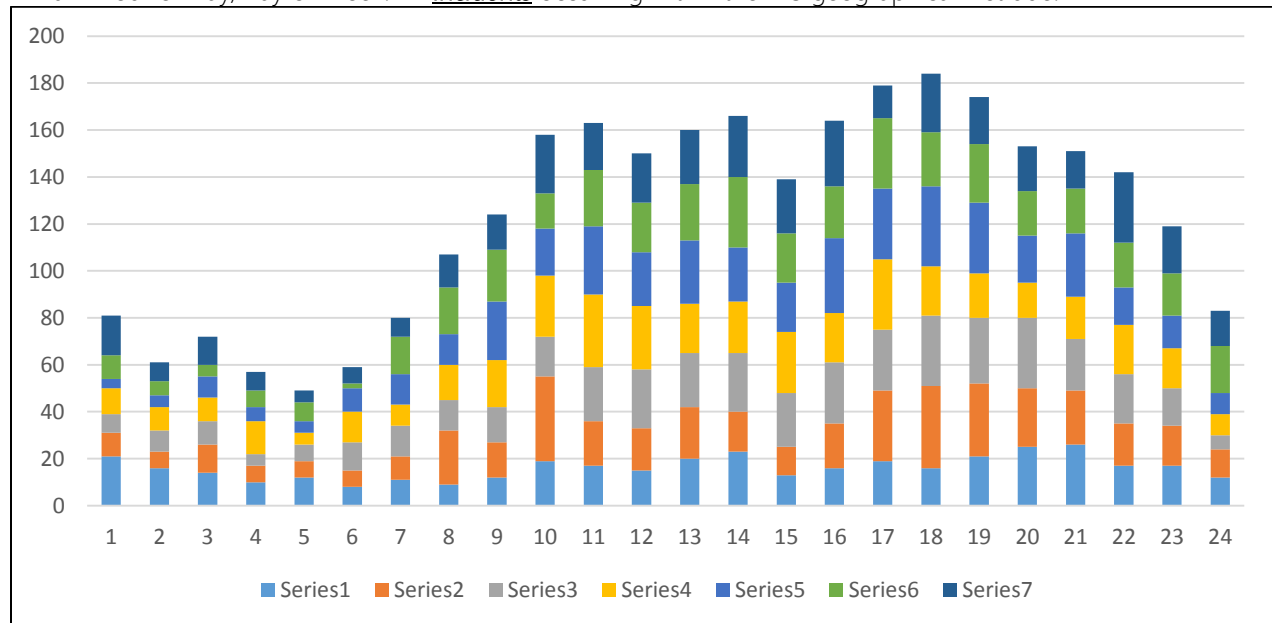
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 17.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	37	18	17	20	6	19	31	148
1	28	12	14	18	14	10	15	111
2	20	21	17	17	14	10	26	125
3	15	13	10	23	12	16	14	103
4	21	12	11	10	11	20	18	103
5	14	13	26	23	23	7	15	121
6	24	19	20	20	29	28	16	156
7	14	41	28	30	26	37	19	195
8	16	41	24	34	38	31	27	211
9	25	56	39	42	36	33	40	271
10	23	35	44	45	36	43	33	259
11	29	29	49	40	46	38	45	276
12	34	39	33	40	39	40	47	272
13	40	35	41	38	41	47	41	283
14	27	28	37	49	35	46	38	260
15	33	33	43	41	52	46	46	294
16	33	45	48	54	54	41	26	301
17	27	55	46	33	50	52	51	314
18	34	42	47	38	48	52	37	298
19	43	40	46	19	34	28	29	239
20	39	39	36	34	39	33	29	249
21	23	27	32	35	27	32	45	221
22	24	30	36	30	23	32	33	208
23	21	20	16	12	22	30	22	143
Total	644	743	760	745	755	771	743	5,161

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 415 geographical first due.



Major Transportation

- Interstate I-66, 8-lane controlled access interstate
- State Route 28 (Sully Road)
- State Route 29 (Lee Highway)

Major Infrastructure

- Landing/takeoff flight path for Washington Dulles International Airport.
- Public Safety Communications Radio Tower.

Major Services and Utilities

- Colonial Pipeline
- Upper Occoquan Sewage Authority
- 500kv electric transmission lines travel northwest to southeast through this area.

Medical Facilities

- Centreville Urgent Care (INOVA)
- Novant Health Care (UVA Health System)

County Schools

- Mountain View Alternative High School
- Centreville High School
- Liberty Middle School
- Centre Ridge Elementary School
- Centreville Elementary School
- Union Mill Elementary School
- Willow Springs Elementary School

Governmental Facilities

- Fairfax County Fire Station 417
- Fairfax County Cub Run Recreation Center

Primary Target Hazard Fire

Centreville High School enrolls over 2300 students that presents a large life hazard at emergency operations.

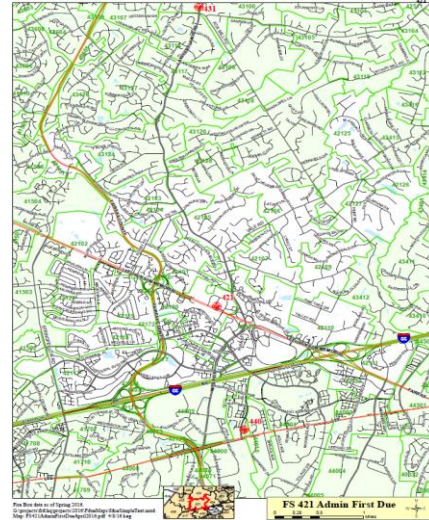
Upper Occoquan Sewage Treatment Plant is a large industrial complex that has numerous technical rescue challenges and is a Tier II Haz Mat location.

Colonial Pipeline is a major transmission line for both natural gas and petroleum products.

Large number of Type-V apartments

Primary Target Hazard Non-Fire

Interstate I-66 is one of the major commuter routes to and from the Northern Virginia area. EMS and suppression emergencies on the interstate are both high risk and frequent.

DEMAND ZONE 421

Fire Station 421 (Fair Oaks) is located at 12300 Lee Jackson Memorial Highway, Fairfax, VA. in the Sully Magisterial District. Daily minimum staffing is 11 uniformed personnel. Fair Oaks Volunteer Fire Department will staff a support BLS unit at times. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,464
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,296
Heavy Rescue-	1 Officer/EMT-B 1 Driver/EMT-B 1 Technician/EMT-B 1 Technician/EMT-P	1,702
Battalion Chief 403	1 Officer/EMT-B	741
Swift water Boat	Cross Staffed	3
Technical Rescue Support	Cross Staffed	21
Other support units	Cross staffed or Volunteer	274

Population Density: Urban

Number of Fire Boxes: 22

Station Specialties: Fire Station 421 houses one of 4 heavy rescue units staffed by 4 Technical Rescue personnel. FS421 is one of 4 fully staffed technical rescue resources and staffs 4 of the 16 required minimum daily staffing for the Technical Rescue Program. Additionally, one of the County swift water boats and Technical Rescue support units operate from FS421. Both are crossed staffed by other units in the station. FS421 serves as Battalion 3 headquarters.

Area Description: Demand Zone 421 is an urban zone of 10.41 square miles within the 2nd Battalion that serves a population of 40,699. The area consists of high-rise and mid-rise buildings and some high dollar residential communities. There are numerous Type-V multifamily garden apartment complexes both sprinklered and unsprinklered.

Dispatches for service over the past 3 years:

2017 - 7,503 (0.95% Decrease)

2016 - 7,575 (0.13% Decrease)

2015 - 7,585

FY2016 Incident Rate per 1,000 Population = 90.42

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	69.5%	59.3%	74.0%	67.8%
Fire	89.1%	71.5%	85.4%	81.7%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:30	00:01:45	00:01:22	00:01:33
Fire	00:01:22	00:01:58	00:01:29	00:01:37
Technical Rescue	00:01:25	00:01:58	00:01:30	00:01:38
HazMat	00:01:38	00:01:43	00:01:34	00:01:41

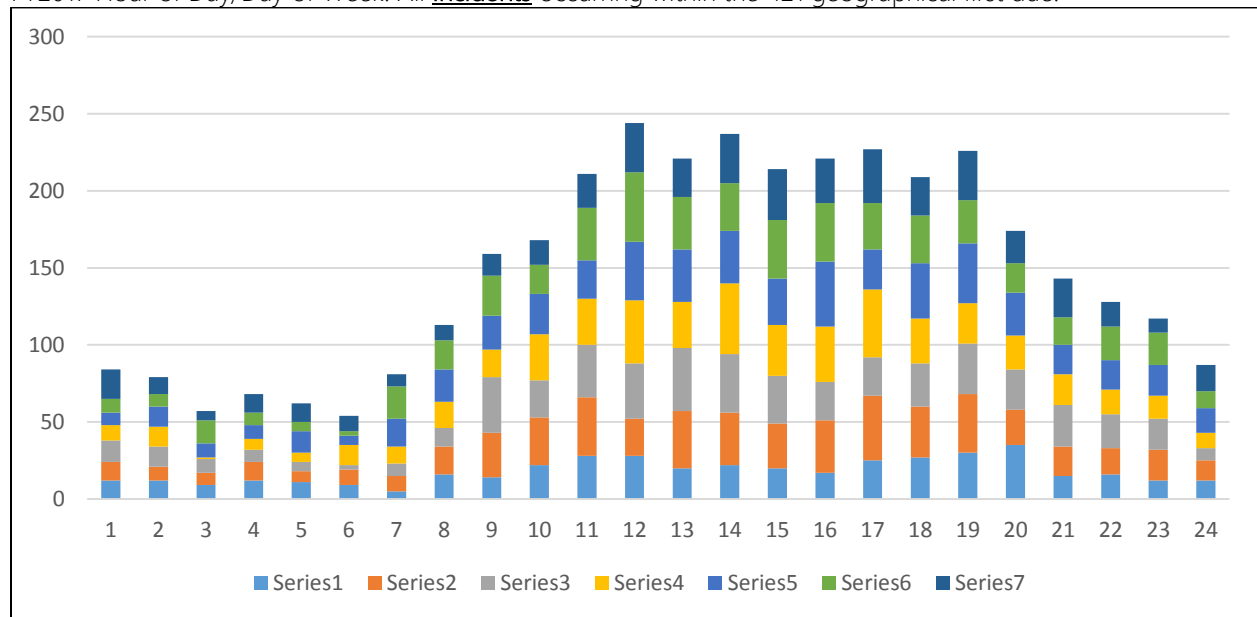
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 21.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	25	29	23	22	20	22	34	175
1	33	15	26	30	23	22	22	171
2	22	20	22	13	16	20	20	133
3	18	25	21	14	16	24	27	145
4	24	12	11	11	27	18	36	139
5	22	23	27	30	28	8	19	157
6	19	26	21	28	42	42	19	197
7	30	61	38	42	46	34	20	271
8	32	54	56	52	52	53	41	340
9	50	58	61	63	58	42	42	374
10	55	55	65	64	48	77	52	416
11	57	47	61	55	62	65	54	401
12	40	67	67	59	68	53	57	411
13	54	62	73	68	62	70	68	457
14	39	52	47	43	57	67	53	358
15	44	75	63	59	74	61	62	438
16	40	79	53	66	58	68	67	431
17	61	73	58	62	70	79	53	456
18	48	75	97	63	72	66	74	495
19	66	57	67	64	65	39	53	411
20	36	58	57	51	39	41	46	328
21	32	39	69	48	49	50	44	331
22	36	39	50	38	51	55	28	297
23	23	25	16	19	27	22	39	171
Total	906	1,126	1,149	1,064	1,130	1,098	1,030	7,503

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 421 geographical first due.



Major Transportation

- Fairfax County Parkway (State Route 286)
- I-66
- Lee-Jackson Memorial Hwy (State Route 50)

Major Infrastructure

- Colonial Gas transmission pipelines

Major Services and Utilities

- Fairfax County Water Tower on West Ox Road

Medical Facilities

- INOVA Fair Oaks Hospital

County Schools

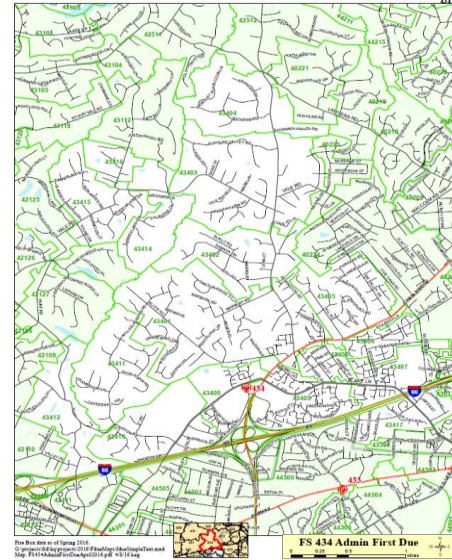
- Greenbriar East Elementary School
- Greenbriar West Elementary School
- Navy Elementary School
- Waples Mill Elementary School

Governmental Facilities

- Fairfax County Police Station (Fair Oaks)
- Fairfax County Fire Station 421

Primary Target Hazard Fire Large number of Type-V Garden style apartments. Fair Oaks Mall, a 1.56 million square foot mall with five main anchor stores and approximately 160 shops.

Primary Target Hazard Non-Fire Vehicle accidents on I-66 due to speed. Calls for EMS services at the three nursing homes within the First Due.

DEAMAND ZONE 434

Fire Station 434 (Oakton) is located at 10511 Rosehaven St. Fairfax, VA. in the Fair Oaks Magisterial District. Daily minimum staffing is 7 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,699
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,,699
Staffing Incident Command Post Officer (SICP)	1 Officer/EMT-B	N/A
Fire Investigation Lab	Cross Staffed	3

Population Density: Urban

Number of Fire Boxes: 17

Station Specialties: Fire Station 434 houses the Fire Investigation Mobile Lab and warehouses investigative evidence. Fire Station 434 serves as office for the duty command post and staffing officer.

Area Description: Fire Zone 434 is an urban zone of 8.39 square miles within the 3rd Battalion that serves a population of 19,834. The zone consists of Type-III and Type-V single family dwellings, Type-V open stairwell garden style apartments. There are several one story strip shopping centers and commercial high-rise and mid-rise buildings. In addition, there are several residential mid-rise buildings that house an elderly population. The residential mid-rise buildings have limited sprinkler protection, but do have standpipe systems.

Dispatches for service over the past 3 years:

2017 - 3,401 (2.22% Increase)

2016 - 3,327 (4.56% Increase)

2015 - 3,182

FY2016 Incident Rate per 1,000 Population = 67.56

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	63.6%	67.1%	57.1%	62.6%
Fire	80.3%	62.0%	75.0%	71.9%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:44	00:01:32	00:01:33	00:01:36
Fire	00:01:32	00:01:46	00:01:31	00:01:38
Technical Rescue	00:01:43	00:01:30	00:02:05	00:01:47
HazMat	00:02:04	00:01:47	00:01:26	00:01:50

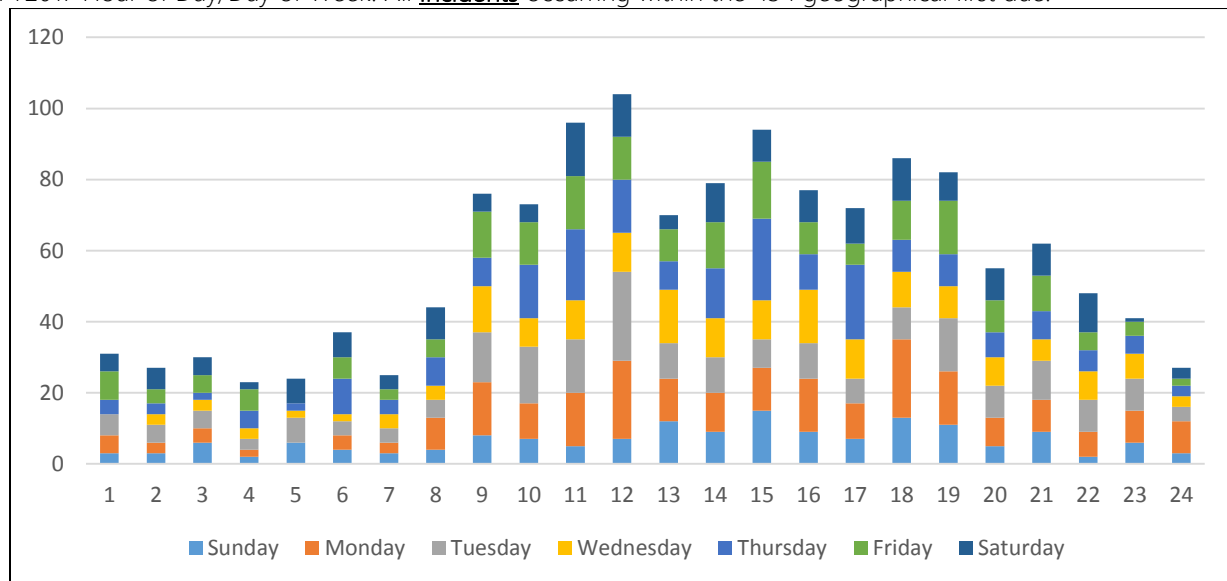
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 34.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	10	6	11	5	16	14	14	76
1	12	5	14	5	13	8	8	65
2	13	11	8	5	9	12	11	69
3	9	6	6	7	10	11	9	58
4	13	4	11	7	2	1	15	53
5	13	8	10	8	13	10	13	75
6	5	7	9	9	6	6	8	50
7	12	29	19	11	12	17	17	117
8	16	30	30	28	29	25	12	170
9	18	41	36	37	33	24	22	211
10	16	35	34	36	36	42	32	231
11	20	44	44	32	32	31	26	229
12	24	37	29	35	34	27	24	210
13	27	38	25	31	30	38	25	214
14	27	36	29	41	49	36	27	245
15	24	35	23	34	36	21	17	190
16	17	34	18	23	35	14	31	172
17	27	32	27	28	28	37	23	202
18	22	26	36	18	15	36	24	177
19	22	19	27	23	30	19	25	165
20	17	16	27	23	20	22	26	151
21	4	22	17	16	19	16	20	114
22	14	17	17	12	15	11	9	95
23	9	16	4	7	7	11	8	62
Total	391	554	511	481	529	489	446	3,401

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 434 geographical first due.



Major Transportation

- State Route 123 (Chain Bridge Road) which is four-lane thoroughfare that runs from the Town of Vienna to the City of Fairfax.
- State Route 674 (Hunter Mill Road) which is a two-lane thoroughfare that runs from Oakton to Wolf Trap.
- Interstate 66 is a controlled access major highway that runs east and westbound through Oakton, VA.

Major Infrastructure

- I-66, 8-lane controlled access interstate
- State Route 123 (Chain Bridge Road)
- Fairfax County Public Safety Radio Operations center

Major Services and Utilities -- None

Medical Facilities

- INOVA Primary Care-Oakton

County Schools

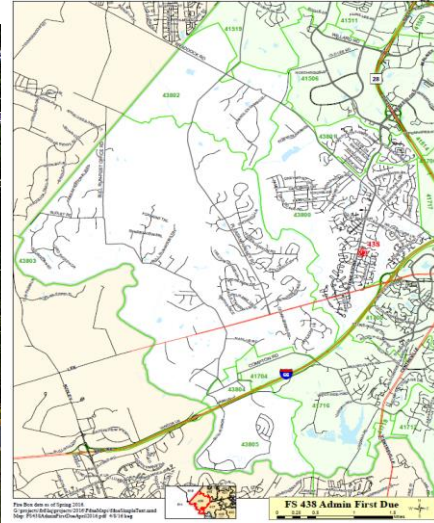
- Oakton Elementary School
- Oakton High School
- Lanier Middle School
- Providence Elementary School
- Mosby Woods Elementary School

Governmental Facilities

- United States Postal Office
- U.S. Social Security Administration
- Fairfax County Oakton Public Library
- Fairfax County Fire Station 434
- Fairfax County Public Safety Radio shop
- Fairfax County Department of Vehicle Services (DVS)

Primary Target Hazard Fire Limited sprinkled residential mid-rise buildings. Type-V garden style apartment complexes that house a large number of the zones population. Single family dwellings that have limited fire hydrants on their streets that can range from 5,000 to 10,000 square feet in size.

Primary Target Hazard Non-Fire The potential for numerous high speed vehicle accidents exists on Interstate 66. The majority of the emergency calls in Zone 434 are for medical assistance. The majority of the medical calls tend to come from the elderly population that reside in mid-rise buildings, senior living facilities, and single family homes. National Rifle Association world headquarters brings civil protests.

DEMAND ZONE 438

Fire Station 438 (West Centerville) is located at 6001 O'Day Drive, Centerville, VA. in the Sully Magisterial District. Daily minimum staffing is 10 uniformed personnel. The Centerville Volunteer Fire Department will staff a BLS unit for events. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,830
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,742
Truck-Straight	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,115
MCP438-Mobile Command	Cross Staffed	5
A438E	Volunteer	83

Population Density: Urban

Number of Fire Boxes: 8

Area Description: Fire Zone 438 is an urban/rural zone of 18 square miles within the 3rd Battalion that serves a population of 32,937. The area consists of multiple type occupancies. Zone 438 has many Type-V single family dwellings, multi-family (garden style apartments), commercial buildings (hotels, restaurants, shopping, and public storage facilities), and mid-rise

structures. Fire Zone 438 also has a significant portion of non-hydrant areas that are located in the south western part of the zone.

Dispatches for service over the past 3 years:

2017 - 4,775 (0.91% Increase)

2016 - 4,732 (8.04% Increase)

2015 - 4,380

FY2016 Incident Rate per 1,000 Population = 58.56

FY2016 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	55.7%	73.0%	52.8%	60.4%
Fire	53.5%	76.6%	75.0%	68.5%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:53	00:01:26	00:01:57	00:01:47
Fire	00:01:55	00:01:43	00:01:38	00:01:49
Technical Rescue	00:02:01	00:01:22	00:01:59	00:01:58
HazMat	00:02:13	00:01:33	00:01:35	00:01:49

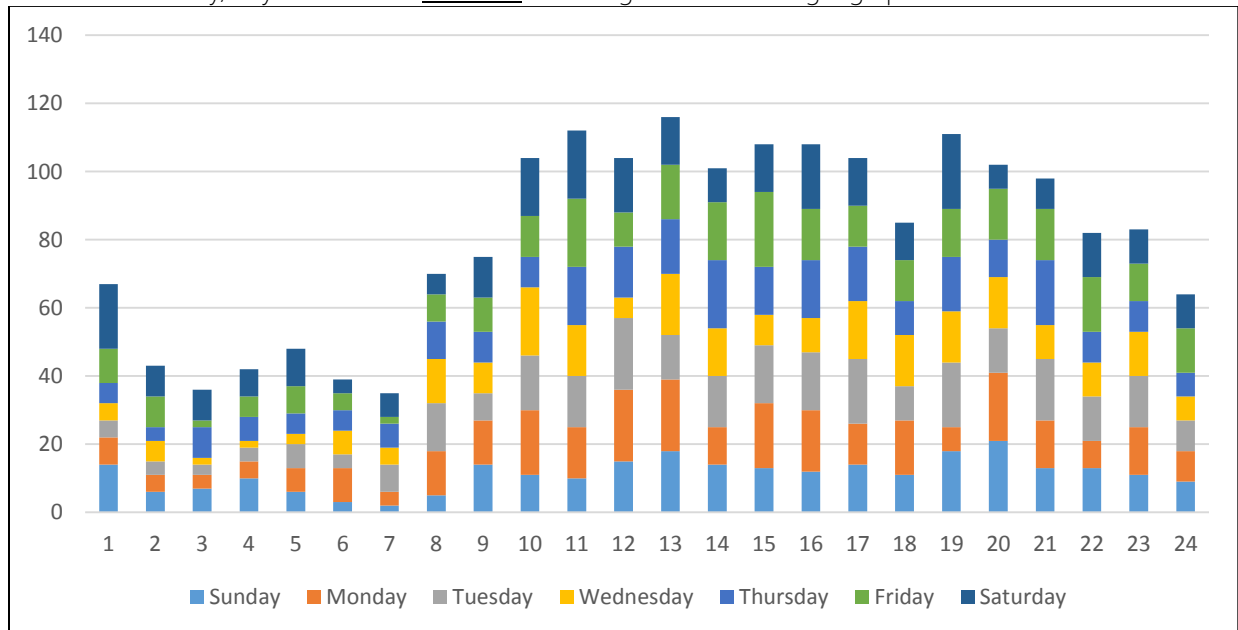
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 38.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	26	19	14	14	15	17	38	143
1	16	11	9	13	14	18	21	102
2	18	9	7	4	18	5	23	84
3	21	11	11	8	12	12	17	92
4	15	16	20	6	14	14	23	108
5	7	21	11	17	8	9	9	82
6	5	16	18	13	16	10	19	97
7	13	32	24	19	29	27	13	157
8	27	28	17	25	33	27	33	190
9	31	49	49	58	29	42	42	300
10	31	38	38	49	48	56	30	290
11	39	48	47	23	45	30	37	269
12	30	46	37	37	47	32	40	269
13	38	23	38	36	43	49	33	260
14	25	31	40	31	36	35	33	231
15	22	37	41	30	34	40	39	243
16	37	39	46	37	43	46	33	281
17	29	44	40	35	43	27	32	250
18	43	37	55	43	49	35	46	308
19	45	45	35	45	29	38	28	265
20	33	33	29	30	39	35	21	220
21	28	26	31	24	25	36	46	216
22	23	26	32	31	18	24	23	177
23	15	23	16	20	14	28	25	141
Total	617	708	705	648	701	692	704	4,775

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 438 geographical first due.



Major Transportation

- Interstate 66, 8-lane controlled access Interstate.
- State Route 29 (Lee Highway).
- State Route 28 (Sully Road)
- The Zone also lies within the glide path of aircraft departing and landing at Washington Dulles International Airport.

Major Infrastructure

- Bridges over State Route 28
- Virginia Chase County Park

Major Services and Utilities

- Transcontinental Gas Pipe Line, liquid and natural gas
- Dominion Virginia Power sub-station on Lee Hwy

Medical Facilities

- Several small medical and doctor offices

County Schools

- London Towne Elementary School – 6100 Stone Road
- Bull Run Elementary School – 15301 Lee Hwy
- Virginia Run Elementary School – 15450 Martins Hundred Dr.
- Cub Run Elementary School – 5301 Sully Station Dr.
- Deer Park Elementary School – 15109 Carlbern Dr.
- Stone Middle School – 5500 Sully Park Dr.

Governmental Facilities

- Sully District Police Station – 4900 Stonecroft Blvd.
- U.S. Post Office – 5003 Westfields Blvd.
- Fairfax County Fire Station 438

Primary Target Hazard Fire

Forest Glen Apartment Complex, Luck Stone quarry, natural and liquefied gas pipelines, rural non-hydrant areas with very large single family homes, multiple garden style apartments housing large populations, commercial occupancies and public storage facilities, and large number of Type-V structures.

Primary Target Hazard Non-Fire Vehicle accidents along all 3 major roadways which include I-66, Route 29 (Lee Highway), and Route 28 (Sully Road). We routinely respond to a variety of non-fire and EMS incidents at the Forest Glen Retirement Apartment complex.

DEMAND ZONE 440



Fire Station 440 (Fairfax Center) is located at 4621 Legato Road, Fairfax, VA. in the Braddock Magisterial District. Daily minimum staffing is 17 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,845
Truck-Tower Ladder	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,516
Hazardous Materials Unit	1 Officer/EMT-B 1 Driver/EMT-B 1 Technician/EMT-B 1 Technician /EMT-P	564
Hazardous Materials Support Unit	2 Technician/EMT-B	297
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,895
EMS Supervisor	1 Officer/EMT-P	1,405

Population Density: Urban

Number of Fire Boxes: 11

Station Specialties: Fire Station 440 houses the counties lead hazardous response resource staffed by 6 hazardous materials technician personnel. Fire Station 440 is one of 5 fully staffed hazardous materials resources and has 6 of the 22 required minimum daily staffing in the program and provides oversight and technical support for all HazMat events occurring within the County or region if requested. Fire Station 440 is also the primary warehouse for all hazardous materials supplies. Fire station 440 houses the 3rd Battalion EMS Supervisor (EMS-403).

Area Description: Demand Zone 440 is an urban zone of 7.20 square miles within the 3rd Battalion that serves a population of 20,101 people. The zone is a mix of Type-V single family, garden style apartments, and townhomes. Zone 440 is in the core governmental area of Fairfax County and protects a large portion of county infrastructure. Fire Station 440 runs automatic aid with Fairfax City to the east. There is a mix of Type-III and Type-V light commercial and retail with mixed mid-rise occupancies. Zone 440 is the Magisterial core center of Fairfax County and is home to most of the county government administrative infrastructure.

Dispatches for service over the past 3 years:

2017 - 7,522 (2.37% Increase)

2016 - 7,384 (0.42% Increase)

2015 - 7,353

FY2016 Incident Rate per 1,000 population = 92.33

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	52.9%	69.5%	53.7%	58.8%
Fire	68.7%	79.6%	84.0%	77.5%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:49	00:01:36	00:01:52	00:01:47
Fire	00:02:15	00:01:40	00:01:45	00:01:54
Technical Rescue	00:02:16	00:01:48	00:02:22	00:02:11
HazMat	00:02:00	00:01:48	00:02:01	00:01:59

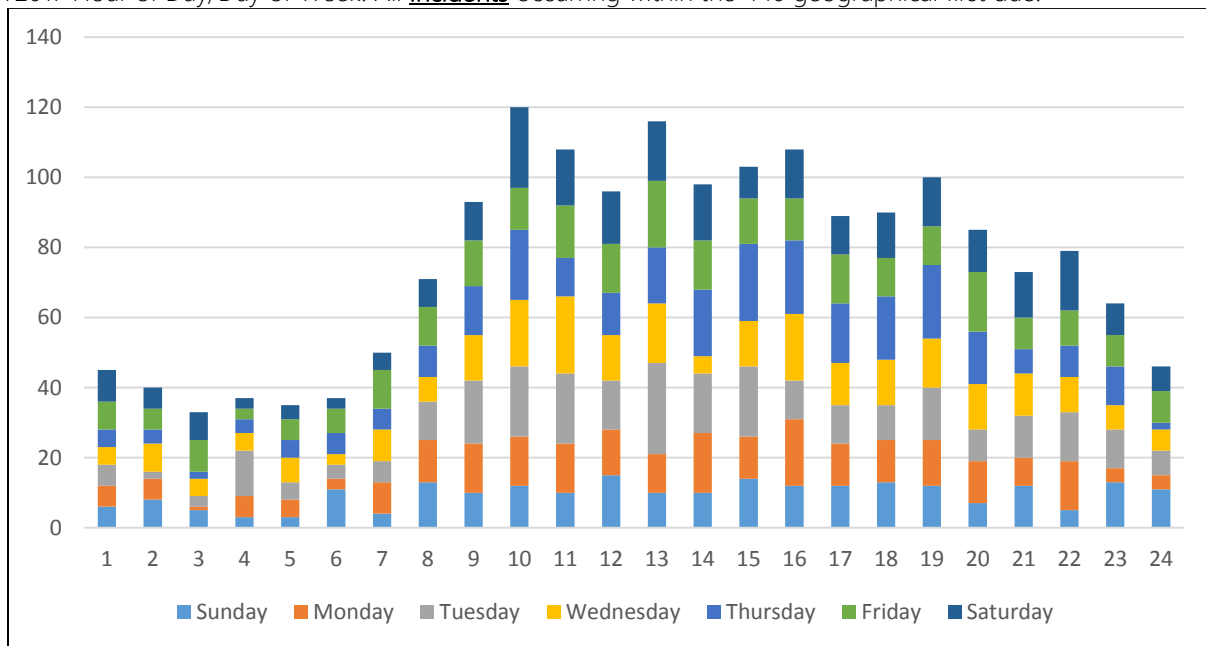
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 40.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	30	21	24	22	17	31	27	172
1	36	18	10	21	15	28	13	141
2	10	15	9	15	13	27	21	110
3	15	20	31	15	9	11	13	114
4	22	10	20	16	20	16	18	122
5	27	20	15	14	18	15	16	125
6	17	23	31	35	38	36	21	201
7	33	35	42	29	43	40	27	249
8	30	51	64	61	52	50	47	355
9	41	60	73	82	80	63	38	437
10	42	66	83	80	60	74	57	462
11	65	60	78	70	66	55	63	457
12	55	43	72	70	77	72	64	453
13	54	56	67	53	76	64	69	439
14	42	54	59	57	70	63	49	394
15	46	66	56	96	78	59	67	468
16	59	70	66	59	62	62	53	431
17	47	71	64	62	64	54	65	427
18	66	59	82	59	90	55	71	482
19	57	51	52	65	62	53	50	390
20	33	54	44	50	39	43	43	306
21	40	52	55	40	42	38	67	334
22	47	36	44	34	35	33	43	272
23	27	21	22	20	15	44	32	181
Total	941	1,032	1,163	1,125	1,141	1,086	1,034	7,522

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 440 geographical first due.



Major Transportation

- I-66 Controlled access highway with HOV Lanes.
- State Route 29 (Lee Hwy)
- State Route 286 (Fairfax County Pkwy)

Major Infrastructure

- Colonial Pipeline
- Fairfax County Communications radio tower at Fairfax Station and West Ox
- MPSTOC-Public Safety Communications Center
- Fairfax County Solid Waste Management Center
- Fairfax County Fire Rescue Academy
- Fairfax County Police Heliport
- Fairfax County Government Center Campus
- Fairfax County Public Safety Headquarters
- Fairfax County Department of Vehicle Services-Central

Major Services and Utilities

- Connector Bus
- Transfer Station-Solid Waste
- Dominion Virginia Power substation

Medical Facilities

- Kaiser Permanente

County Schools

- Willow Springs Elementary School
- Eagle View Elementary School

Governmental Facilities See infrastructure listed above.

- Katherine K. Hanley Family Shelter
- Fairfax County Animal Shelter.
- Fairfax County Fire Station 440

Primary Target Hazard Fire Fairfax Corner Shopping Center, large Type-V shopping centers and big-box stores, numerous garden apartment complexes.

Primary Target Hazard Non-Fire Large number of Magisterial facilities within the zone.

DEMAND ZONE 408

Fire Station 408 is located at 7128 Columbia Pike, Annandale, VA. in the Mason Magisterial District of Fairfax County. Daily minimum staffing is 13 uniformed personnel. Annandale Volunteer Fire Department operates a Canteen unit. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	3,402
Truck	1 Officer/EMT-B 1 Driver/EMT-B 2 Firefighter/EMT-B	1,896
ALS Unit-Alpha	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,366
ALS Unit-Bravo	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,319
Battalion Chief	1 Command Officer/EMT-B	1,237
Canteen Unit	Staffed by Volunteers*	32

Population Density: Urban

Number of Fire Boxes: 16 local streets (all urban) and 5 include I-495 (Capital Beltway).

Station Specialties: Fire Station 408 serves as Battalion 4 Headquarters.

Area Description: Fire Zone 408 is an urban area of 9.60 square miles within the 4th Battalion that serves a population of 46,988. The zone consists of Type-III and Type-V garden apartments built from 1950-1990 with open and closed stair-wells, large single family homes, Type-II high-rise buildings and a light industrial area located on Port Royal Road.

Dispatches for service over the past 3 years:

2017- 11,289 (5.88% Increase)

2016- 10,662 (11.81% Increase)

2015- 9,536

2016 Incident Rate per 1,000 Population = 87.81

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	76.0%	69.5%	56.4%	67.5%
Fire	93.4%	87.3%	70.9%	84.6%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:30	00:01:37	00:01:47	00:01:39
Fire	00:01:13	00:01:25	00:01:53	00:01:33
Technical Rescue	00:01:19	00:01:37	00:01:53	00:01:38
HazMat	00:01:19	00:01:40	00:01:35	00:01:37

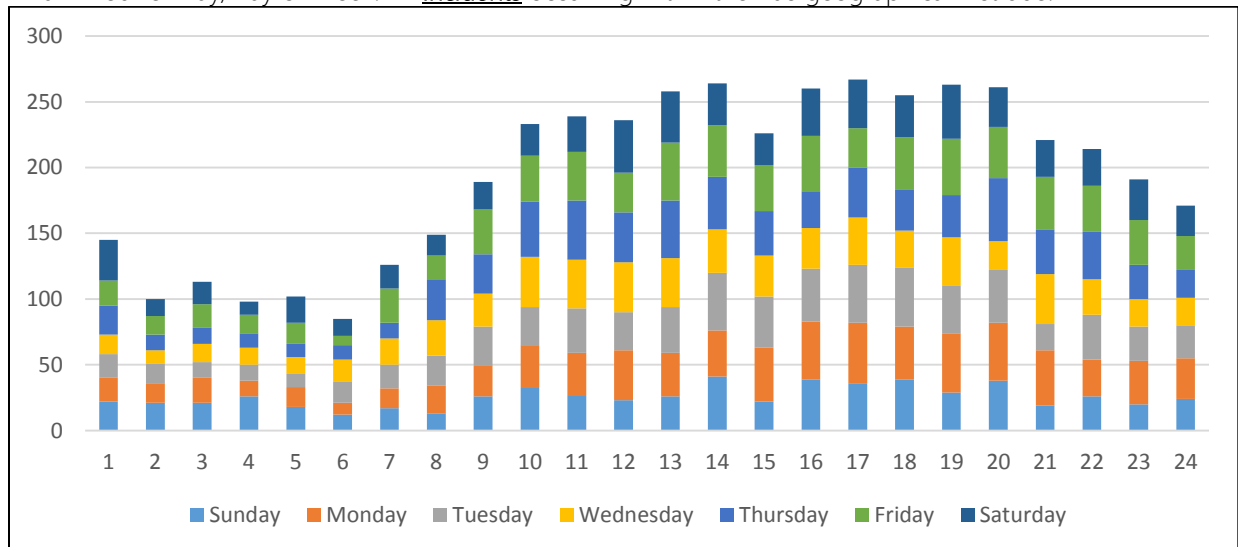
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 8.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	47	36	38	32	46	39	62	300
1	46	32	31	19	33	47	24	232
2	50	37	21	22	26	41	33	230
3	58	21	26	29	25	21	23	203
4	43	31	19	20	25	34	47	219
5	33	20	35	40	27	14	33	202
6	36	41	38	54	30	56	40	295
7	33	51	55	59	66	62	52	378
8	60	72	77	87	80	70	54	500
9	71	76	85	101	82	86	67	568
10	65	74	105	97	110	82	61	594
11	60	97	87	95	68	74	94	575
12	67	80	85	103	89	106	83	613
13	98	80	115	74	94	101	63	625
14	61	95	103	86	90	88	71	594
15	74	111	99	88	85	126	81	664
16	84	102	110	88	87	100	98	669
17	94	114	102	72	86	81	84	633
18	89	108	95	98	89	116	110	705
19	97	102	100	79	94	91	62	625
20	49	83	42	105	101	83	63	526
21	65	65	65	77	87	73	80	512
22	54	74	66	51	64	68	58	435
23	65	62	61	45	50	63	46	392
Total	1,499	1,664	1,660	1,621	1,634	1,722	1,489	11,289

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 408 geographical first due.



Major Transportation I-495 is an 8-lane controlled access interstate with four additional express lanes which is part of the Capital Beltway. State Route 236 (Little River Turnpike) is a four lane undivided roadway. Route 244 (Columbia Pike) is a 4-lane undivided roadway running from Annandale in Fire Zone 408 to the Pentagon in Arlington County. Route 620 (Braddock Road) is a 4-lane undivided roadway.

Major Infrastructure numerous bridges and roadways over or connecting I-495

Major Services and Utilities

- Washington Gas pipeline
- Dominion Virginia powerlines running through zone with power sub-station at Wakefield Park

Medical Facilities

- Fairfax Hospital
- Merrifield Mental Health Center
- Several Urgent Care facilities

County Schools

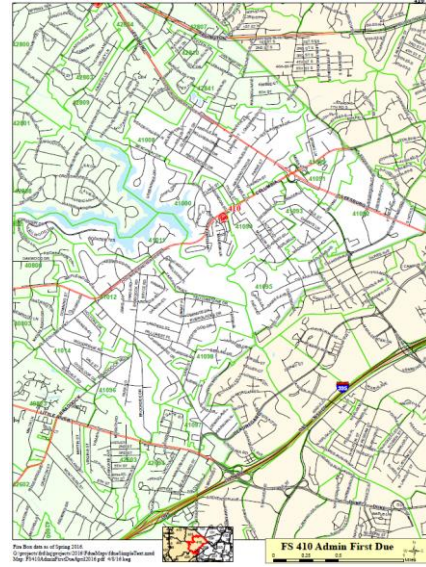
- Annandale Terrace Elementary School
- Annandale High School
- Belvedere Elementary School
- Braddock Elementary School
- Columbia Elementary School
- Mason Crest Elementary School
- Edgar Allen Poe Middle School
- Ravensworth Elementary School
- Woodburn Elementary School

Governmental Facilities

- Mason District Police Station
- Mason District Park
- Audrey Moore Recreation Center
- Wakefield Park
- George Mason Reginal Library
- Pinecrest Reginal Golf Course
- Hidden Oaks Nature Center
- U.S. Postal Center

Primary Target Hazard Fire Parliament House is a high-rise residential occupancy which is non-sprinkled, Sleepy Hollow Manor Nursing Home (building is old and non-sprinkled where residence on the third floor have one main exit on the Alpha side), Assisted Living Bright View at Woodburn. Numerous garden apartments high population Americana Drive numerous vehicles park on both sides of the street making it difficult for apparatus responding and positioning. Light industrial park on Port Royal road in the southern end of Fire Zone 408.

Primary Target Hazard Non-Fire Increased in gang activity contributes to an increase in call volume for garden apartments on Wadsworth Court. A contributing factor is the increased low income population a large volume of our calls are generated in and around the apartments on Americana Drive. Numerous calls are generated from Sleepy Hollow Manor Nursing Home, and the Bright View Senior Living home.

DEMAND ZONE 410

Fire Station 410 (Baileys Crossroads) is located at 3601 Firehouse Lane, Falls Church,, VA. in the Mason Magisterial District. Daily minimum staffing is 12 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	3,514
Truck	1 Officer/EMT-B 1 Driver/EMT-B 2 Firefighter/EMT-B	1,966
ALS-Alpha Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,132
ALS-Bravo Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,213
BLS Unit	Volunteer Staffed	455

Population Density: Urban

Number of Fire Boxes: 15 (Fairfax County), 4 (Arlington County Mutual Boxes, first due).

Area Description: Fire Zone 410 is an urban zone of 4.38 square miles within the 4th Battalion that serves a population of 31,708. The zone consists of multiple high-rise buildings and low income Type-III and Type-V garden style apartments with enclosed stairwells built from 1940-1970. The high-rise buildings consist of residential and commercial, sprinkled and un-sprinkled. Fire Zone 410 is bordered on the south by Zones 408 and 426, the east and north by mutual aid agencies Alexandria City and Arlington County and the west by Zone 428.

Dispatches for service over the past 3 years:

2017- 10,288 (2.05% Increase)

2016- 10,081 (4.40% Increase)

2015- 9,656

FY2016 Incident Rate per 1,000 Population = 110.29

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	74.8%	63.9%	63.9%	67.9%
Fire	93.6%	89.6%	84.3%	89.4%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:30	00:01:41	00:01:40	00:01:38
Fire	00:01:10	00:01:24	00:01:31	00:01:22
Technical Rescue	00:01:27	00:01:25	00:01:23	00:01:27
HazMat	00:01:20	00:01:23	00:01:51	00:01:31

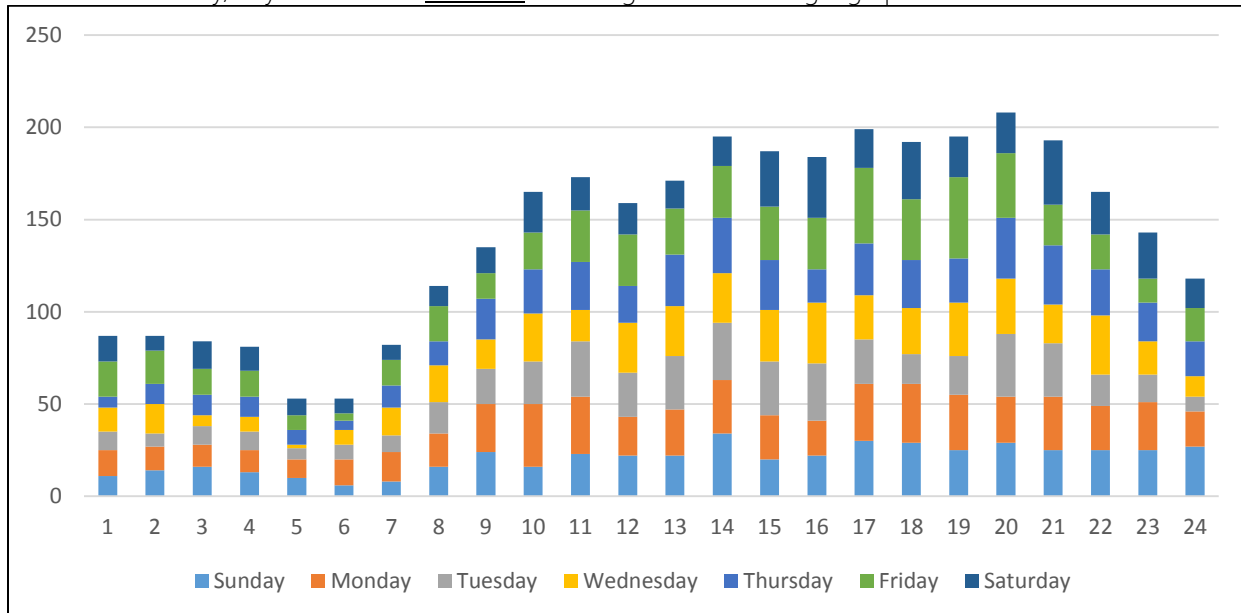
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 10.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	44	45	33	33	26	46	44	271
1	49	28	19	34	25	46	21	222
2	41	25	28	11	26	36	49	216
3	37	27	28	14	31	36	37	210
4	25	31	13	6	30	23	23	151
5	14	37	21	35	13	11	25	156
6	20	49	33	44	33	38	28	245
7	45	46	56	54	39	53	36	329
8	55	70	76	56	70	48	49	424
9	53	80	80	74	79	77	53	496
10	61	88	78	83	83	97	57	547
11	61	87	85	90	85	73	71	552
12	78	84	95	95	76	66	55	549
13	83	83	91	88	102	72	72	591
14	69	91	94	83	94	85	94	610
15	85	87	93	103	77	99	86	630
16	78	86	72	91	82	116	82	607
17	76	78	72	63	78	75	102	544
18	84	82	78	92	81	108	73	598
19	83	87	93	92	88	99	59	601
20	81	84	69	79	94	67	80	554
21	64	71	60	94	69	62	65	485
22	58	60	49	55	69	41	59	391
23	53	41	34	34	51	48	48	309
Total	1,397	1,547	1,450	1,503	1,501	1,522	1,368	10,288

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 410 geographical first due.



Major Transportation State Route 244 (Columbia Pike) which is a 4-lane thoroughfare running between Zone 408 in the south and ending at the Pentagon to the north. State Route 7 runs mostly south to north across Zone 410. State Route 7 is mostly 4 to 6-lanes of traffic with a high traffic density.

Major Infrastructure

- Barcroft Lake and Dam, which is a 620 million-gallon lake, is privately owned by The Lake Barcroft Association. The dam was rebuilt in the 1970's to meet all Commonwealth dam safety regulations.
- Fairfax County Public Safety Communications radio tower-Bailey's Crossroads

Major Services and Utilities None

Medical Facilities None

County Schools

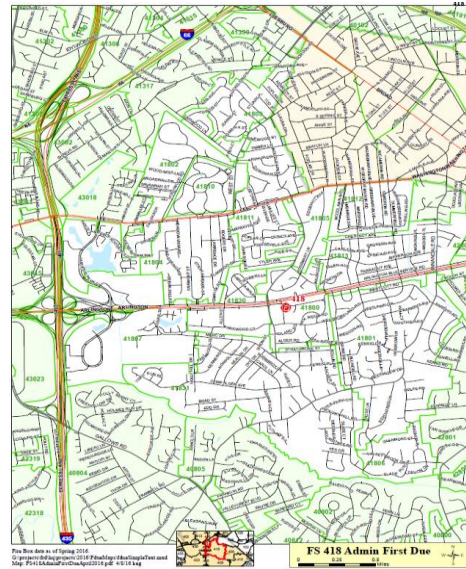
- Bailey's Elementary School
- Glen Forest Elementary School
- Parklawn Elementary School
- Glasgow Middle School

Governmental Facilities

- Fairfax County Fire Station 410
- Bailey's Homeless Shelter
- Woodrow Wilson Library
- U.S. Post Office

Primary Target Hazards Fire Unsprinkled residential high-rise in and around Skyline Towers present multiple high-rise fires each year. Mixed-use commercial occupancies reside along Leesburg Pike and Columbia Pike. Numerous garden style apartment complexes house a high population of this zone's residents. Unique building construction features exist throughout this zone including bowstring truss roofs, trash chutes, storage areas, basements without exterior access, as well as many vacant structures.

Primary Target Hazards Non-Fire Vehicle accidents along Columbia Pike and Leesburg Pike have the potential to be high speed collisions. Calls for emergency medical assistance often occur in residential high-rise buildings and calls for medical service in lower income areas of Glen Carlyn Drive (Olde Salem Village). Calls for service from Lincolnia Senior Center and Goodwin House retirement community account for many incidents. Lake Barcroft's location within a neighborhood poses an ice rescue and drowning threat year-round.

DEMAND ZONE 418

Fire Station 418 (Jefferson) is located at 3101 Hodge Place, Falls Church, VA. in the Mason Magisterial District. Daily minimum staffing is 11 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,211
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,050
Heavy Rescue	1 Officer/EMT-B 1 Driver/EMT-B 1 Technician/EMT-B 1 Technician/EMT-P	1,356
EMS Supervisor	1 Officer/EMT-P	1,769
Swift water Boat	Cross Staffed	9
Technical Rescue Support	Cross Staffed	45

Population Density: Urban

Number of Fire Boxes: 14 with several more Highway Boxes

Station Specialties: Fire Station 418 houses one of 4 heavy rescue units staffed by 4 Technical Rescue Personnel. FS418 is one of 4 fully staffed technical rescue resources and staffs 4 of the 16 required minimum daily staffing for the Technical Rescue Program. Additionally, one of the County swift water boats and Technical Rescue support units operate from FS418. Both are crossed staffed by other units in the station. Fire Station 418 houses the EMS Supervisor for Battalion 4

Area Description: Fire Zone 418 is an urban zone of 5.15 square miles located in the 4th Battalion that serves a population of 27,490. The zone consists of multiple high-rise buildings of both residential and commercial, sprinkled and unsprinkled. In addition, there is a large number of garden style apartments of Type III and V construction built from 1940-1970.

Dispatches for service over the past 3 years:

2017- 7,240 (0.17% Increase)

2016- 7,228 (8.48% increase)

2015- 6,663

FY2016 Incident Rate per 1,000 population = 75.63

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	75.3%	62.8%	67.8%	68.7%
Fire	83.9%	78.8%	71.2%	78.0%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:28	00:01:37	00:01:36	00:01:35
Fire	00:01:42	00:01:41	00:01:55	00:01:47
Technical Rescue	00:02:02	00:02:02	00:02:10	00:02:03
HazMat	00:01:16	00:01:51	00:01:16	00:01:34

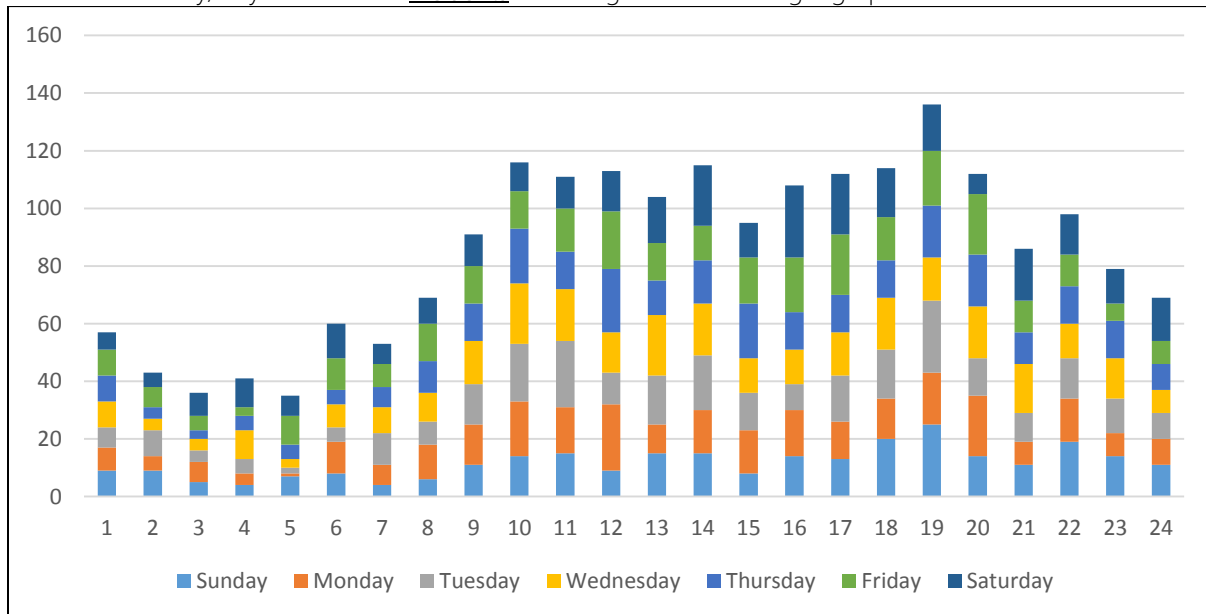
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 18.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	35	25	27	19	28	25	33	192
1	27	21	15	15	12	29	17	136
2	21	14	10	7	7	28	21	108
3	27	12	14	18	16	8	17	112
4	30	6	2	7	12	37	29	123
5	28	24	23	14	18	26	27	160
6	14	24	27	25	31	32	27	180
7	26	33	36	38	26	30	26	215
8	26	51	57	35	42	56	45	312
9	41	46	60	70	59	60	35	371
10	59	55	67	69	54	57	54	415
11	43	88	56	63	60	67	52	429
12	47	53	66	73	55	57	46	397
13	55	49	55	75	64	62	67	427
14	30	64	52	54	61	79	49	389
15	62	74	39	63	63	73	80	454
16	38	70	67	50	68	75	78	446
17	39	69	68	55	59	75	63	428
18	74	55	83	53	56	66	44	431
19	57	69	54	59	61	68	30	398
20	35	39	43	56	57	34	58	322
21	48	49	44	48	42	45	42	318
22	45	36	40	34	42	28	42	267
23	28	33	22	30	29	31	37	210
Total	935	1,059	1,027	1,030	1,022	1,148	1,019	7,240

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 418 geographical first due.



Major Transportation I-495, (Capital Beltway) an 8-lane controlled access interstate with four additional HOV lanes running down the center. I-66 is a 6-lane controlled access Interstate. US Route 50 (Arlington Blvd) and US Route 29 (Lee Jackson Memorial Highway) which are both 4-lane thoroughfare running throughout Fairfax County. State Route 649 (Annandale Road).

Major Infrastructure

- Bridges over major roadways
- Governmental buildings

Major Services and Utilities None

Medical Facilities None

County Schools

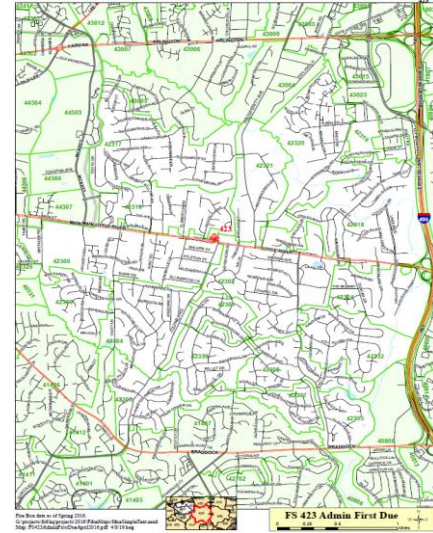
- Falls Church High School
- Westlawn Elementary School
- Timber Lane Elementary School
- Pine Spring Elementary School
- Beech Tree Elementary School

Governmental Facilities

- Providence Rec-center
- Defense Health Headquarters

Primary Target Hazards Fire Unsprinkled residential high-rise. Multiple commercial high-rises that include a hotel. Mixed-use commercial occupancies reside along Lee Highway and Arlington Blvd. Numerous garden style apartment complexes house a high population of this zone's residents.

Primary Target Hazards Non-Fire Vehicle accidents along I-495 and I-66 have the potential to be high speed collisions.

DEMAND ZONE 423

Fire Station 423 (West Annandale) is located at 8914 Little River Turnpike, Fairfax, VA. in the Mason Magisterial District. Daily minimum staffing is 6 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,058
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,829
Light and Air Unit	Cross Staffed by Medic Unit	61

Population Density: Urban

Number of Fire Boxes: 19 within Fairfax County, 2 in Fairfax City (All Urban)

Station Specialties: Fire Station 423 has primary response for 1 of 3 Light/Air Units that serve county operations. The unit is cross staffed by on-duty crews.

Area Description: Fire Zone 423 is an urban zone of 7.83 square miles within the 4th Battalion that serves a population of 26,214. The zone consists of Type-III and Type-V single family dwellings, condominiums and rental apartments. There are three garden apartment complexes that are of Type III construction all built from 1960s-1970s. Northern Virginia Community College located at 8333 Little River Turnpike is heavily populated from 0800-2200 hours Monday-Friday by adult learners.

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

Dispatches for service over the past 3 years:

2017- 3,948 (1.49% Increase)

2016- 3,890 (10.20% Increase)

2015- 3,529

FY2016 Incident Rate per 1,000 Population = 67.14

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	70.9%	71.0%	61.7%	67.8%
Fire	89.2%	76.7%	71.0%	80.1%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:39	00:01:35	00:01:40	00:01:38
Fire	00:01:20	00:01:56	00:01:55	00:01:41
Technical Rescue	00:01:47	00:01:44	00:01:39	00:01:46
HazMat	00:01:52	00:01:44	00:01:30	00:01:41

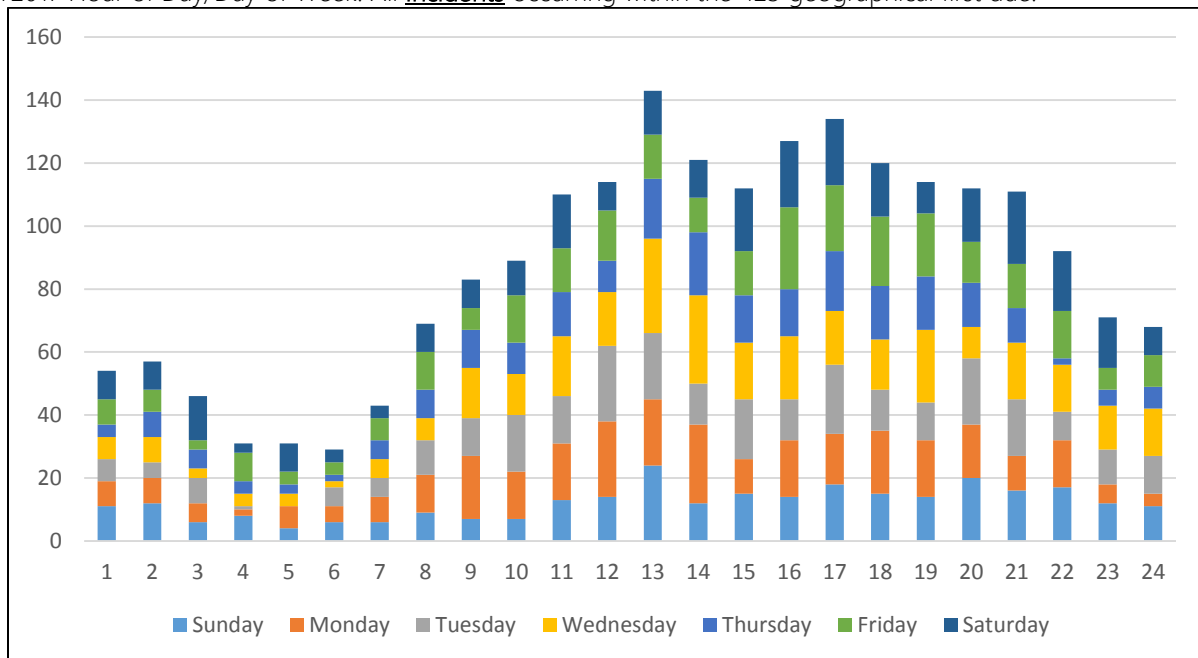
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 23.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	21	12	6	5	16	14	18	92
1	13	20	18	12	10	16	11	100
2	13	13	12	7	8	11	17	81
3	19	13	5	10	7	4	13	71
4	17	20	5	8	8	9	13	80
5	13	13	14	5	11	15	6	77
6	17	24	7	26	25	15	15	129
7	13	29	25	15	30	14	23	149
8	13	36	36	34	31	26	32	208
9	22	34	33	33	39	33	24	218
10	27	40	41	44	34	27	28	241
11	30	42	33	31	39	37	36	248
12	26	43	29	27	33	26	34	218
13	29	25	44	23	26	36	32	215
14	32	29	39	28	41	31	16	216
15	19	27	28	47	24	43	26	214
16	27	34	25	22	32	23	26	189
17	24	43	27	23	33	40	21	211
18	22	42	27	35	27	33	13	199
19	28	37	36	24	39	25	29	218
20	21	34	24	33	25	21	20	178
21	15	25	28	18	21	20	18	145
22	19	20	22	23	16	18	18	136
23	16	19	3	21	15	20	21	115
Total	496	674	567	554	590	557	510	3,948

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 423 geographical first due.



Major Transportation State Route 236 (Little River Turnpike) is a 4-lane divided highway. State Route 237 (Pickett Rd). State Route 620 (Braddock Rd) a 6-lane road runs from Zone 408 from the east through Zone 403 to the west.

Major Infrastructure

- Fairfax County Public Safety Communications Back-up Dispatch Facility
- Colonial Pipeline fuel storage facility which is in Zone 433's First Due but borders 423.

Major Services and Utilities

- Pickett road Colonial storage facility.
 - 1,000,000 gallons of fuel onsite
 - 125+ MC407 over-the-road haulers in/out of the facility each day.
 - Underground monitoring system (cross contamination of water table)

Medical Facilities

- Woodburn Mental Health Center

County Schools

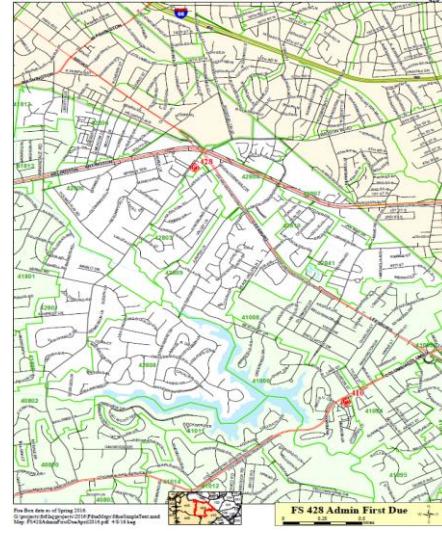
- W.T. Woodson High School
- Little Run Elementary
- Frost Middle School
- Camelot Elementary
- Canterbury Woods Elementary
- Wakefield Forest Elementary
- Northern Virginia Community College -- Not a County school

Governmental Facilities

- The Olley Glen Senior Living Apartment complex owned by Fairfax County
- Fairfax County Fire Station 423
- Fairfax County Department of Communications backup dispatch center
- Fairfax County Police Motorcycle Division

Primary Target Hazard Fire Pickett Road petroleum tank farm. Northern Virginia Community College (NVCC). W.T Woodson High School partially sprinklered / has standpipes.

Primary Target Hazard Non-Fire Vehicle accidents along State Routes 236 and 620 have the potential for high speed collisions. Calls for emergency medical assistance in the various residential neighborhoods and at the Olley Glen Apartments. Woodburn Rd floods at Accotink Creek during sustained rains and poses a threat year-round.

DEMAND ZONE 428

Fire Station 428 (Seven Corners) is located at 2949 Sleepy Hollow Road, Falls Church, VA. in the Mason Magisterial District. Daily minimum staffing is 6 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,475
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,151

Population Density: Urban

Number of Fire Boxes: 11

Area Description: Fire Zone 428 is a mixed urban suburban zone with 3.38 square miles within the 4th Battalion that serves a population of 17,999. The zone consists of multiple mid-rise and high-rise residential and commercial buildings both sprinklered and unsprinklered. Zone 428 operates on an automatic aid agreement with Arlington County on a daily basis. There are a large number of Type-III garden style apartments, and Type-V modern townhomes. Fire Zone 428 is bordered by Zone 410 to the east, 408 and 418 to the South and 418 to the west. Zone 428 is bordered by Arlington County to the northwest. Zone 428 has a large daytime transit population traveling through the 7-Corners intersection.

Dispatches for service over the past 3 years:

2017- 4,626 (8.67% Increase)

2016- 4,257 (10.0% Increase)

2015- 3,870

FY2016 Incident Rate per 1,000 Population = 106.99

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	65.7%	61.6%	69.1%	65.5%
Fire	89.3%	67.0%	85.3%	81.0%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:31	00:01:41	00:01:38	00:01:37
Fire	00:01:22	00:01:53	00:01:30	00:01:43
Technical Rescue	00:00:57	00:01:18	00:01:32	00:01:16
HazMat	00:01:40	00:02:06	00:01:11	00:01:52

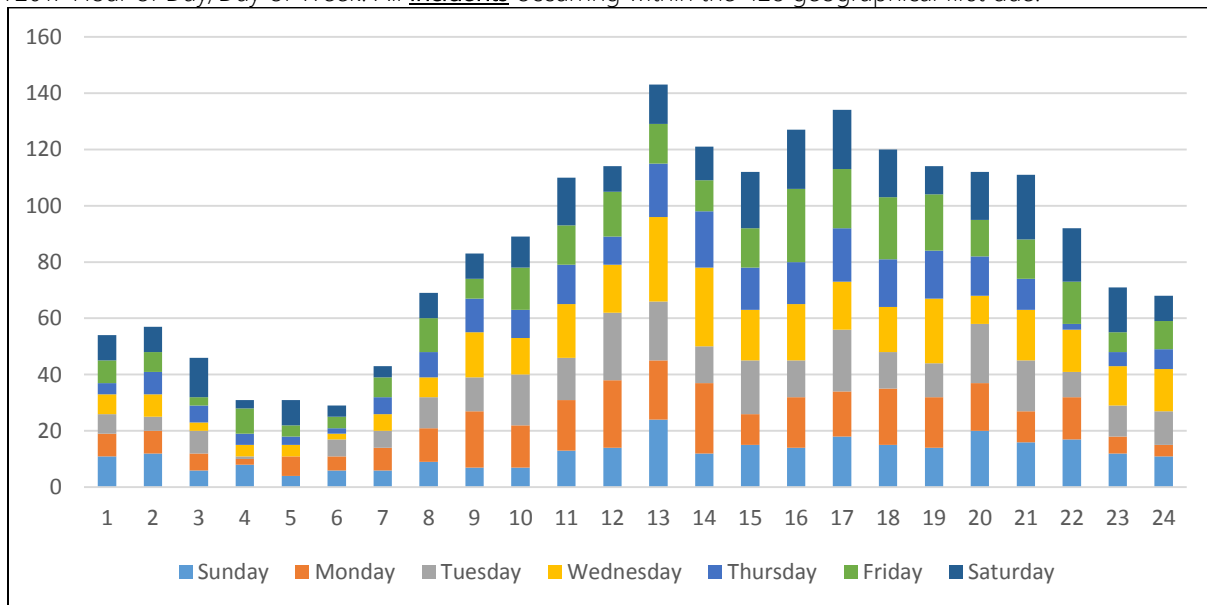
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 28.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	26	13	14	13	9	20	15	110
1	30	15	11	20	18	15	16	125
2	15	16	11	13	11	6	32	104
3	14	6	6	11	6	15	11	69
4	9	12	3	9	4	8	19	64
5	12	8	6	8	5	7	3	49
6	10	17	15	15	12	13	10	92
7	24	26	23	12	28	24	13	150
8	12	42	26	36	29	21	22	188
9	16	34	53	26	32	39	23	223
10	33	34	47	46	34	48	37	279
11	38	56	51	29	36	53	27	290
12	44	38	46	60	46	39	28	301
13	26	44	39	53	41	39	30	272
14	22	36	43	43	42	38	35	259
15	35	43	35	40	43	53	40	289
16	52	29	50	36	46	43	37	293
17	38	45	23	35	39	42	44	266
18	32	39	29	40	36	50	25	251
19	41	44	35	25	41	33	32	251
20	33	34	33	24	28	29	37	218
21	42	27	20	23	11	34	34	191
22	33	20	21	23	15	17	29	158
23	22	12	22	21	11	20	26	134
Total	659	690	662	661	623	706	625	4,626

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 428 geographical first due.



Major Transportation Several major thoroughfares come together in Zone 428 to make up what is known as 7-Corners. This major intersection consisting of State Road Route 7 (Leesburg Pike/E. Broad Street), State Road Route 50 (Arlington Blvd.), Wilson Blvd, and Sleepy Hollow Road were a key point during the turn of the 19th century and remains a heavily traveled route through northern Virginia.

Major Infrastructure

- Barcroft Lake
- Seven Corners intersection

Major Services and Utilities None

Medical Facilities

- Dominion Hospital-residential psychiatric hospital occupancy 40-85 patient capacity.

County Schools

- Bailey's Upper Elementary School
- J.E.B. Stuart High School
- Sleepy Hollow Elementary School

Governmental Facilities

- Fairfax County Fire Station 428
- Fairfax County Shelter House (controlled access)
- Willston Multi-Cultural Center
- U.S. Post Office

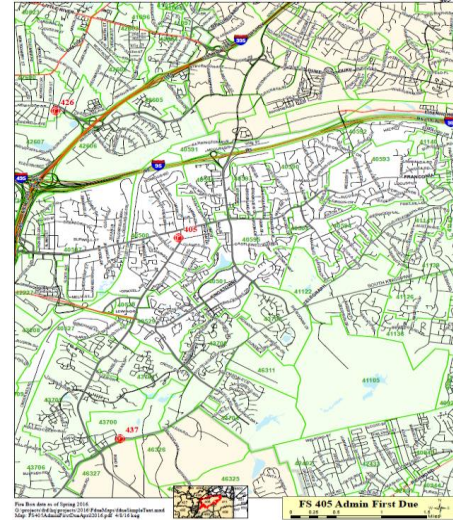
Primary Target Hazard Fire

- BJ's Wholesale Club
- Seven Corners Center
- BB&T Building
- Kastle Systems building
- Public Storage
- Governor House Inn
- Congressional School
- Dar Al-Hijrah Islamic Center
- Eden Center

- Mark Center Building
- The Jefferson
- Woodlake Towers #2
- Roosevelt Towers
- The Madison at Balston Station
- Seven Corners Medical Arts Center
- Sleepy Hollow Bath and Racquet Club

Primary Target Hazard Non-Fire

The roadways that pass through the area are congested (not only with rush hour traffic), with vehicle and pedestrian traffic. The large volume of traffic and the unique topography of the area even with traffic signals and barriers to limit road crossings contribute to accidents. The area is congested with on street parking, narrowing roadways and constricting traffic.

DEMAND ZONE 405

Fire Station 405 (Franconia) is located at 1455 6300 Beulah Street, Alexandria, VA. in the Lee Magisterial District. Daily minimum staffing is 10 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,664
Truck	1 Officer/EMT-B 1 Driver/EMT-B 2 Firefighter/EMT-B	1,536
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,485
Other Support units	Volunteer Staffed	277

Population Density: Urban

Number of Fire Boxes: 15

Area Description: Demand Zone 405 is an urban zone with 8.19 square miles of service area within the 5th Battalion that serves a population of 36,942. The zone consists of a mixed residential and commercial community Type-III and Type-V of townhomes, garden apartments, single family neighborhoods and many mixed use strip centers. The area is growing at a fast pace with remodels and new construction and mixed use occupancies. Fire Zone 405 is bordered on the north by Alexandria City, the east by Zone 411, the south by Zone 437 and Fort Belvoir, and the west by Zone 422. Zone 405 runs automatic aid with, the City of Alexandria, Arlington County, Prince George's County, Maryland and U.S. Army base-Fort Belvoir.

Dispatches for service over the past 3 years:

2017- 6,962 (5.63% Increase)

2016- 6,591 (1.79% Increase)

2015- 6,475

FY2016 Incident Rate per 1,000 Population = 77.06

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	67.7%	68.8%	61.4%	65.9%
Fire	83.4%	87.7%	85.9%	85.7%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:37	00:01:37	00:01:40	00:01:38
Fire	00:01:27	00:01:22	00:01:33	00:01:27
Technical Rescue	00:01:48	00:01:41	00:01:34	00:01:43
HazMat	00:01:22	00:01:15	00:01:45	00:01:30

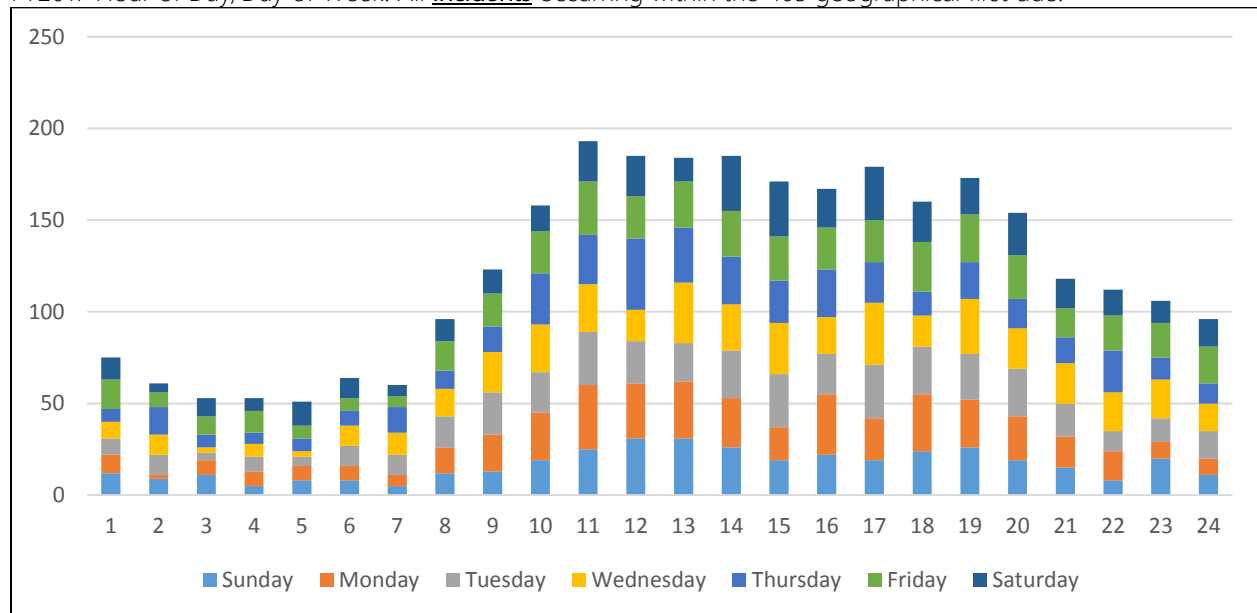
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 05.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	30	24	22	26	21	30	33	186
1	25	14	23	23	29	15	16	145
2	23	16	15	5	16	28	30	133
3	14	22	20	12	20	28	23	139
4	18	17	12	9	13	22	22	113
5	18	14	25	19	21	15	23	135
6	14	23	24	33	28	14	17	153
7	27	40	36	29	25	36	30	223
8	30	44	50	44	38	44	39	289
9	35	61	40	65	62	56	41	360
10	42	65	60	62	60	56	52	397
11	52	69	50	48	73	61	47	400
12	62	59	47	67	69	55	43	402
13	54	58	74	54	66	60	56	422
14	41	45	65	61	59	50	50	371
15	44	75	55	41	47	77	58	397
16	47	56	57	63	74	58	59	414
17	53	58	65	45	52	76	47	396
18	61	52	50	59	54	76	48	400
19	68	48	59	52	38	67	47	379
20	48	50	41	56	46	44	47	332
21	26	36	34	40	57	51	42	286
22	41	29	32	44	32	52	36	266
23	24	28	39	23	28	47	35	224
Total	897	1,003	995	980	1,028	1,118	941	6,962

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 405 geographical first due.



Major Transportation

Franconia runs first due to the western portion of the Springfield Interchange, popularly known as the "Mixing Bowl." The interchange includes three Interstates I-95, I-395, and I-495, going over or under I-95 within less than a half mile, I-95/I-495 runs east/west across north side of first due. In addition to the mixing bowl:

- Major CSX and Norfolk Southern Freight Line runs down the middle of first due.
- Virginia Railway Express commuter rail station at Franconia-Springfield Metro and access to tracks off Barry Rd
- Washington Metro's Blue Line at the Franconia-Springfield Station
- Metro's Largest parking garage at Franconia-Springfield Station
- Franconia Springfield Parkway
- Franconia Road
- Van Doran Street

Major Infrastructure

- Dominion Power Electrical Sub Station on Round Hill Rd
- Major Underground Natural Gas transmission line and multiple odorant stations
- Pipelines running to Tank Farm in Zone 437

Medical Facilities

- HealthPlex Franconia Springfield INOVA

County Schools

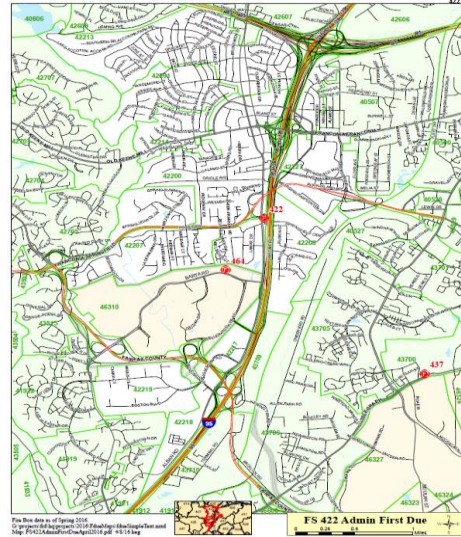
- Franconia Elementary School
- Forest dale Elementary School
- Lane Elementary School
- Rose Hill Elementary School
- Bush Hill Elementary School
- Mark Twain Middle School
- Key Middle School
- Robert E. Lee High School
- Edison High School
- Wilton Woods Center (Computer Training)
- Key Center School (special education center for students with intellectual disabilities and autism).

Governmental Facilities

- Army National Guard Facility on Telegraph Road
- Two United States Post Offices
- 12 mid and high-rise Government leased facilities in the area
- John Marshall Library
- Franconia District Police Station

Primary Target Hazard Fire Army National Guard Facility on Telegraph Road, numerous strip malls/commercial strip buildings, and mid-rise/high-rise commercial buildings. Sunrise Assisted Living Center, Connections for Hope, Forrest Glenn. Numerous garden apartments

Primary Target Hazard Non-Fire Emergency medical incidents. Substance abuse center on Van Doran Street. Senior Independent Living Center on Silver Lake Blvd. Vehicle accidents on I-495 and the Springfield interchange have risk of heavy mechanism due to high speed. Kingstowne Lake and many retention ponds pose a drowning and ice rescue threat year round.

DEMAND ZONE 422

Fire Station 422 (Springfield) is located at 7011 Backlick Road, Springfield, VA. in the Lee Magisterial District. Daily minimum staffing is 10 uniformed personnel. Springfield Volunteer Fire Department will staff a support BLS unit and support Engine at times. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	3,198
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,894
Truck-Straight	1 Officer/EMT-B 1 Driver/EMT-B 2 Firefighter/EMT-B	1,710
Brush Truck/Utility	Cross Staffed	7
Canteen Unit	Staffed by Volunteers	24
Other units	Volunteer Staffed	317

Population Density: Urban

Number of Fire Boxes: 11

Area Description: Fire Zone 422 is an urban area of 6.22 square miles within the 5th Battalion and serves a population of 21,949. The area consists of a mix of residential, commercial, and light industrial structures. Millions of commuters and travelers pass through the zone on the interstates I-95/I-395/I-495. The area is growing at a steady pace with remodels, new construction. Zone 422 is adjacent to a U.S. Military facility that is an outpost of Fort Belvoir. Station runs automatic aid with Prince William County, City of Alexandria, and Fort Belvoir.

Dispatches for service over the past 3 years:

2017- 8,150 (3.69%) Increase

2016- 7,860 (2.56% Increase)

2015- 7,664

FY2016 Incident Rate per 1,000 Population = 190.39

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	55.5%	64.7%	50.1%	57.0%
Fire	73.5%	90.7%	63.5%	77.6%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:47	00:01:35	00:01:42	00:01:42
Fire	00:01:40	00:01:20	00:01:46	00:01:37
Technical Rescue	00:01:38	00:01:42	00:01:38	00:01:40
HazMat	00:01:51	00:01:30	00:01:55	00:01:51

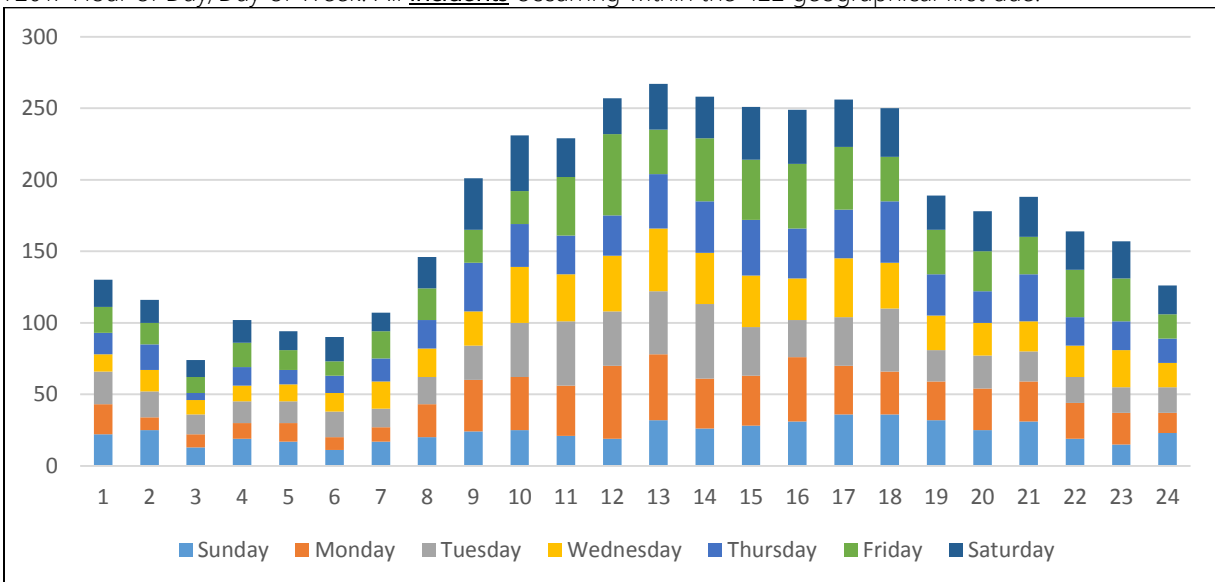
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 22.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	36	36	39	27	31	35	39	243
1	34	24	31	26	30	23	37	205
2	25	18	26	21	11	26	31	158
3	34	18	28	30	22	31	38	201
4	29	22	24	17	19	25	25	161
5	22	16	32	16	25	24	34	169
6	26	28	24	46	31	30	27	212
7	34	44	44	42	40	44	51	299
8	39	70	56	46	59	42	59	371
9	51	68	66	74	70	54	62	445
10	37	68	73	69	59	81	54	441
11	51	69	53	67	57	86	59	442
12	49	76	71	91	61	56	61	465
13	43	46	82	50	68	71	56	416
14	53	66	55	72	68	76	69	459
15	62	66	47	51	67	76	77	446
16	71	67	57	84	58	83	65	485
17	73	69	71	55	63	51	66	448
18	69	44	62	59	47	71	51	403
19	49	54	50	59	52	76	60	400
20	53	56	46	43	60	54	45	357
21	30	52	49	56	47	65	52	351
22	34	43	33	54	35	64	47	310
23	47	34	42	39	32	39	30	263
Total	1,051	1,154	1,161	1,194	1,112	1,283	1,195	8,150

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 422 geographical first due.



Major Transportation Central Springfield is dominated by the Springfield Interchange known as the Mixing Bowl. The interchange includes three Interstates I-95, I-395, and I-495, combined with two exits less than a half mile apart, two major roads, Commerce Street and Route 644 (Old Keene Mill Road / Franconia Road) crossing over or under I-95 within less than a half mile. In addition to the roadways listed above is the presence of a separate, reversible high-occupancy vehicle (HOV) lane passing through the center of two of the interstates. Virginia Railway Express commuter rail stops at the Backlick Road Station which is an at-grade train station within Zone 422.

Major Infrastructure

- The Springfield Interchange, also known as the Mixing Bowl
- Washington Metropolitan Area Transit Authority (WMATA), Blue line
- Virginia Railway Express commuter rail, Backlick Road Station, an at-grade train station
- Industrial Tank Terminal located at 8200 Terminal Road, Newington, VA:
Total Storage Capacity: 1,348,000 Barrels
No. of Tanks: 25

Medical Facilities

- Kaiser Permanente
- HealthPlex Franconia Springfield INOVA

County Schools

- Garfield Elementary School
- Saratoga Elementary School
- Crestwood Elementary School

Private schools

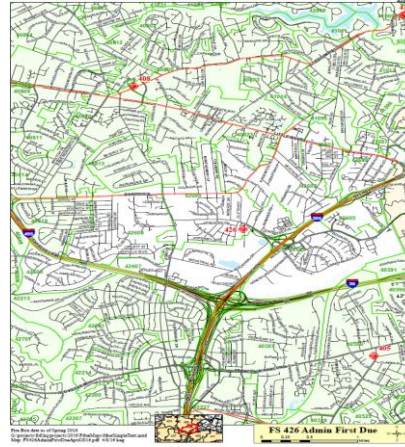
- Springfield Academy
- Word of Life Christian Academy
- St. Bernadette School

Governmental Facilities

- GSA warehouse, largest warehouse in the country
- Many government leased facilities in the area

Primary Target Hazard Fire GSA warehouse, numerous strip malls/commercial strip buildings, and mid-rise/high-rise residential buildings.

Primary Target Hazard Non-Fire Springfield Town Center, Greenspring Village, Interstate highways produce high speed vehicle accidents.

DEMAND ZONE 426

Fire Station 426 (Edsall) is located at 5216 Carolina Place, Springfield, VA. 22151 in the Mason Magisterial District of Fairfax County. Daily minimum staffing is 11 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Call Volume
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,621
Heavy Rescue (HazMat)	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,714
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,540
EMS Supervisor	1 Officer/EMT-P	1,553
Foam Unit	Cross Staffed by Engine Crew	14

Population Density: Urban

Number of Fire Boxes: 11

Station Specialties: Fire Station 426 houses one of 4 heavy rescue units staffed by 4 Hazardous Materials Technician personnel. Fire Station 426 is one of 5 fully staffed hazardous materials resources and has 4 of the 22 required minimum daily staffing in the Hazardous Materials Program. FS426 houses the 5th Battalion EMS Supervisor-EMS405

Area Description:

Demand Zone 426 is an urban zone with approximately 5.90 square miles within the 5th Battalion that serves a population of 26,150. The zone consists of Type-III and Type-V single

family, garden style apartments and light industrial areas. It has one of the most complex highway systems in Fairfax County and the eastern seaboard. A 75% bedroom community with about 25 industrial, and 1 residential high-rise building (Towers of Morningside).

Dispatches for service over the past 3 years:

2017- 8,442 (3.80% Increase)

2016- 8,133 (1.84% Increase)

2015- 7,986

FY2016 Incident Rate per 1,000 Population = 104.09

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	70.6%	68.0%	67.9%	68.8%
Fire	83.5%	78.9%	73.7%	79.2%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:27	00:01:35	00:01:30	00:01:31
Fire	00:01:33	00:01:48	00:01:56	00:01:47
Technical Rescue	00:01:34	00:01:38	00:01:29	00:01:35
HazMat	00:01:26	00:01:24	00:01:38	00:01:30

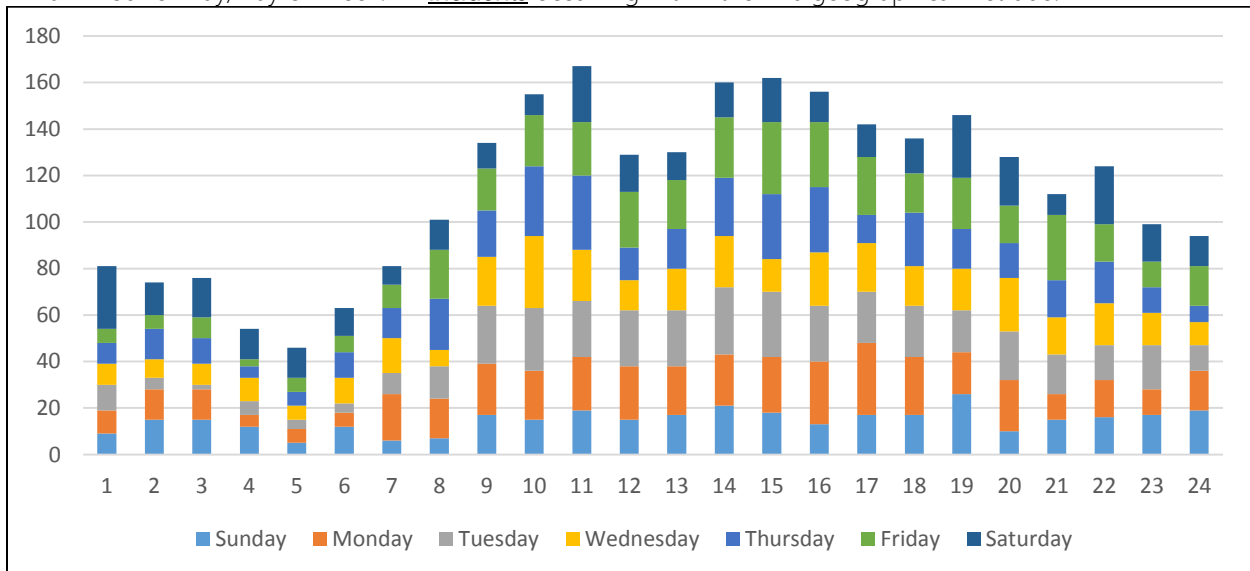
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 26.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	36	31	20	20	27	26	69	229
1	42	38	23	17	41	23	33	217
2	44	28	13	23	22	26	38	194
3	38	14	17	22	16	22	33	162
4	23	18	7	15	20	16	33	132
5	26	25	26	29	31	17	25	179
6	23	46	40	40	39	33	27	248
7	19	66	61	19	65	58	50	338
8	43	65	62	39	71	65	57	402
9	52	51	71	74	80	57	44	429
10	44	69	62	49	65	78	67	434
11	49	72	56	53	58	68	53	409
12	54	41	64	54	68	70	69	420
13	60	57	87	47	76	74	60	461
14	51	60	77	63	72	81	70	474
15	45	72	63	64	87	88	54	473
16	77	89	68	63	63	98	73	531
17	65	79	83	61	80	64	55	487
18	89	65	57	75	60	66	74	486
19	52	77	54	66	63	62	64	438
20	52	42	51	65	65	69	40	384
21	40	45	43	51	61	55	74	369
22	40	30	44	51	42	42	42	291
23	52	37	32	25	30	44	35	255
Total	1,116	1,217	1,181	1,085	1,302	1,302	1,239	8,442

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 426 geographical first due.



Major Transportation Major roadways with Zone 426 I-395, I-495, I-95 (Mixing Bowl of the Capital Beltway), all three roadways are 8-lane controlled access roadways with 4 and 6-HOV lanes running down the center. State Route 236 (Little River Turnpike), Backlick Road, Braddock Road, Edsall Road.

Major Infrastructure

- “The Mixing Bowl,” the intersection of I-95, I-395, and I-495 and bridge work
- Lake Accotink
- Lake Accotink Park
- Norfolk Southern Railway
- CSX Railway which runs parallel to the Northern Southern line
- Fairfax County Public Safety Communications radio tower -- Springfield

Major Services and Utilities

- Vulcan Materials Company, Industrial Drive, Springfield, VA 22150 Norfolk Southern Railway
- Waste Management Solid Waste Transfer Station, 6615 Electric Drive, Springfield, VA 22151
- Washington Gas, 6801 Industrial Road

Medical Facilities

- Concentra Urgent Care. 5590 General Washington Dr, Alexandria, VA 22312
- Virginia Urgent and Primary Care, LLC. 5501 Backlick Rd #105, Springfield, VA 22151
- Leewood Healthcare Center. 7120 Braddock Rd, Annandale, VA 22003
- Fairfax Radiology Centers - Springfield Imaging. 5510 Alma Ln #100, Springfield, VA 22151

County Schools

- Bren Mar Park Elementary School, 6344 Beryl Rd, Alexandria, VA 22312
- Lynbrook Elementary School, 5801 Backlick Rd, Springfield, VA 22150
- North Springfield Elementary School, 7602 Heming Ct, North Springfield, VA 22151
- Poe Middle School, 7000 Cindy Ln, Annandale, VA 22003
- Thomas Jefferson High School for Science and Technology, 6560 Braddock Rd, Alexandria, VA 22312
- Springfield Estates Elementary School, 6200 Charles C Goff Drive, Springfield, VA 22150
- Holmes Middle School, 6525 Montrose St, Alexandria, VA 22312
- Weyanoke Elementary School, 6520 Braddock Rd, Alexandria, VA 22312

Governmental Facilities

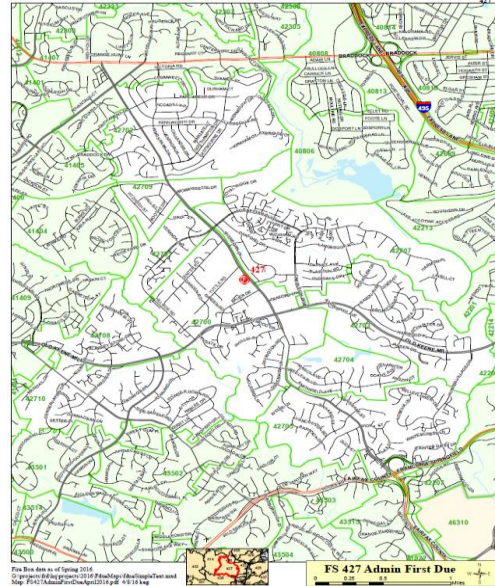
- Fairfax County School Board, 5417 Backlick Rd, Springfield, VA 22151
- Congressman Don Beyer District Office, 5285 Shawnee Rd, Alexandria, VA 22312
- Social Security Administration, Plaza 500, 6295 Edsall Rd # 190, Alexandria, VA 22312
- Fairfax County Archives and Record, 6800 Industrial Rd, Springfield, VA 22151

Primary Target Hazard Fire

- Public Storage, 5610 General Washington Drive - 703-642-1093
- Amazon; Amazon Fresh, Mr. Floor, 5617 Industrial Road
- Marlo and Firuze, 5650 A-D General Washington Drive
- Lerner Towers at Morningside, 4949 Manitoba Drive
- PBS Public Broadcasting, 6453 Stepenson way
- Washington Gas, 6801 Industrial Road
- Aarondale Retirement, 6929 Mathews Place
- Leewood Nursing Home, Backlick Road
- Washington Post, 7201 Wimsatt Road
- Vulcan Materials Company, Industrial Drive, Springfield, VA 22150

Primary Target Hazard Non-Fire

High speed vehicle accidents along I-395, I-495, I-95 and along Braddock Rd. Other roadway with a high potential for high speed collisions are Backlick Road, Edsall Road, and Little River Turnpike. Calls for emergency medical assistance often occur in residential areas. Calls for service from Leewood Nursing Home and Aarondale Retirement account for many incidents. Lake Accotink's location within a neighborhood poses an ice rescue and drowning threat year-round.

DEMAND ZONE 427

Fire Station 427 (West Springfield) is located at 6140 Rolling Road, Springfield, VA. in the Springfield Magisterial District. Daily minimum staffing is 6 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,960
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,888
Ambulance Bus	Cross Staffed	10

Population Density: Urban

Number of Fire Boxes: 10

Station Specialties: Fire Station 427 houses an ambulance bus used in mass casualty operations region-wide and is cross staffed by on-duty crews.

Area Description: Fire Zone 427 is an urban area of 7.11 square miles within the 5th Battalion that serves a population of 32,675. The zone consists of primarily residential occupancies. Residential properties consist of single-family dwellings, Type-III and Type-V townhomes (over/under and piggyback) townhomes, garden style apartments and mid-rise residential buildings. Commercial occupancies consist of office buildings and strip shopping centers.

Dispatches for service over the past 3 years:

2017- 3,858 (1.67% Increase)

2016- 3,526 (5.85% Increase)

2015- 3,331

FY2016 Incident Rate per 1,000 Population = 59.59

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	63.5%	60.5%	54.2%	59.2%
Fire	88.5%	81.7%	68.8%	80.5%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:35	00:01:44	00:01:54	00:01:44
Fire	00:01:21	00:01:32	00:01:49	00:01:32
Technical Rescue	00:01:45	00:01:20	00:01:38	00:01:34
HazMat	00:01:47	00:01:39	00:01:36	00:01:42

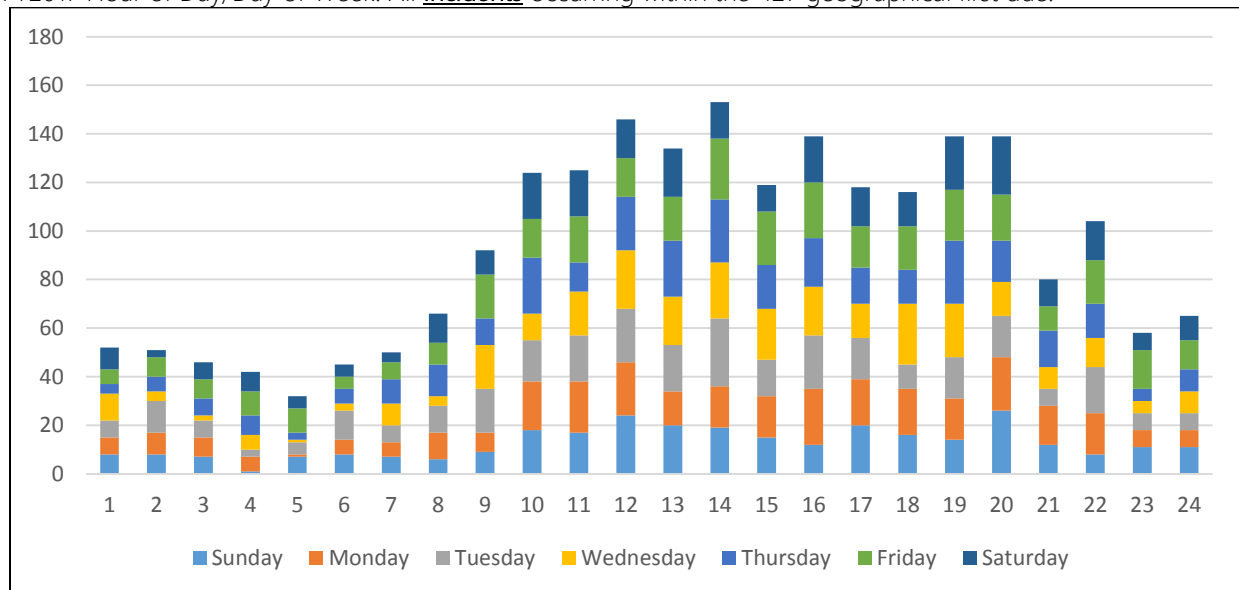
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 27.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	15	14	11	15	6	12	16	89
1	14	11	20	5	10	17	4	81
2	11	11	11	4	16	15	14	82
3	4	8	5	7	14	14	15	67
4	8	1	9	2	5	13	10	48
5	13	10	22	6	12	8	7	78
6	14	13	15	14	17	15	9	97
7	8	24	22	11	19	14	20	118
8	16	15	29	32	22	32	22	168
9	26	35	34	28	38	23	37	221
10	31	37	49	29	19	35	34	234
11	26	37	33	39	34	28	24	221
12	33	25	40	32	45	28	25	228
13	20	33	48	30	38	39	31	239
14	32	26	35	39	35	31	29	227
15	24	33	34	28	44	41	29	233
16	29	32	26	24	28	22	27	188
17	29	33	32	42	34	33	23	226
18	19	36	32	34	42	37	38	238
19	39	34	25	21	27	33	33	212
20	20	28	15	23	31	23	18	158
21	17	26	29	21	24	32	25	174
22	20	16	20	12	9	30	15	122
23	16	13	12	16	18	16	18	109
Total	484	551	608	514	587	591	523	3,858

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 427 geographical first due.



Major Transportation Major Roadways are State Route 644 (Old Keene Mill Rd), a 4-lane thoroughfare running east/west from I-95 to State Route 286 (Fairfax County Parkway). State Route 638 (Rolling Rd) runs north/south from Braddock Rd to Route 286 (Fairfax County Parkway) near Fort Belvoir-North Area. These roadways carry a high volume of traffic and are considered major routes.

Major Infrastructure

- Norfolk Southern Railway.
- Washington Gas Storage Vault

Major Services and Utilities

- High Voltage Electrical Transmission Lines.
- Washington Gas underground storage vault-11,000,000 gallons of LPG

Medical Facilities

- INOVA Urgent Care

County Schools

- West Springfield High School
- Irving Middle School
- Cardinal Forest Elementary School
- Keene Mill Elementary School
- Kings Glen Elementary School
- Kings Park Elementary School
- Orange Hunt Elementary School
- Rolling Valley Elementary School
- West Springfield Elementary School

Private Schools

- Accotink Academy
- St. Bernadette School

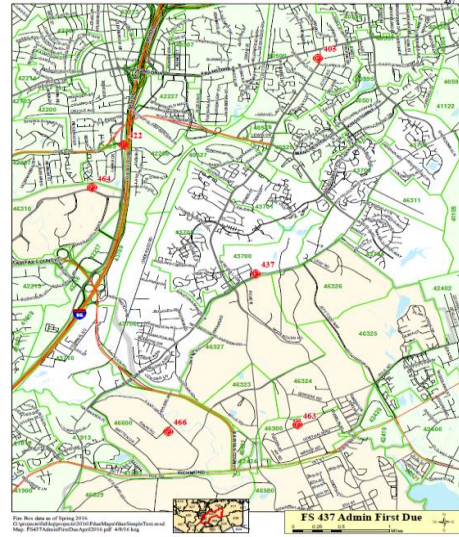
Governmental Facilities

- Fairfax County West Springfield Government Center and Police Station
- Fairfax County Cary Building (County Health Dept.)
- U.S. Post Office
- U.S. Marshals Service
- U.S. Social Security Administration Records Archive
- Fairfax County Fire and Police Warehouse
- Fairfax County Schools, bus training and maintenance center

Primary Target Hazard Fire Washington Gas, Ravensworth Station Gas Mine, is an underground storage that can hold over 11,000,000 gallons of liquefied natural gas. Numerous townhomes increase risk due to number of occupants. The numerous units with unconventional arrangements, i.e.: piggybacks, over/under, can make accessing a fire more difficult.

Primary Target Hazard Non-Fire Zone 427 can be considered a “Bedroom Community.” With the large number of commuters coming and going for work, there is the potential for traffic accidents especially on Old Keene Mill and Rolling Road.

This Zone sees an increase in EMS activity at night as the work force returns home.

DEMAND ZONE 437

Fire Station 437 (Kingstowne) is located at 7936 Telegraph Road, Alexandria, VA. in the Lee Magisterial District. Daily minimum staffing is 7 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,222
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,380
Battalion 405	1 Officer/EMT-B	676
Foam Unit	Cross Staffed	4
LA437-Light Air Unit	Cross Staffed	39
Other Units	Volunteer Staffed	42

Population Density: Urban

Number of Fire Boxes: 11

Station Specialties: Fire Station 437 serves as the battalion headquarters for Battalion 405. Fire Station 437 also houses and responds with Foam Unit 437 which is one of two regional foam resources within FCFRD. Fire Station 437 houses Light and Air Unit 437 which is 1 of 3 Light and Air units that are dispatched on structure fires within Fairfax County.

Area Description: Fire Zone 437 is an urban zone of 6.6 square miles within the 5th Battalion that serves a population of 22,513. The area consists of Type-III and Type-V residential structures that include: single family dwellings, townhouses, and garden apartments. There are

three shopping centers and several areas of light industrial occupancy. Fire Zone 437 runs automatic aid with U.S. Army Base, Fort Belvoir to the south.

Dispatches for service over the past 3 years:

2017- 3,367 (2.37% Increase)

2016- 3,289 (9.05% Increase)

2015- 3,016

FY2016 Incident Rate per 1,000 Population = 54.95

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	64.7%	53.7%	63.7%	60.7%
Fire	85.2%	86.5%	81.4%	84.5%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:39	00:01:44	00:01:45	00:01:43
Fire	00:01:26	00:01:32	00:01:47	00:01:32
Technical Rescue	00:01:31	00:01:56	00:01:58	00:01:50
HazMat	00:01:28	00:01:46	00:01:47	00:01:46

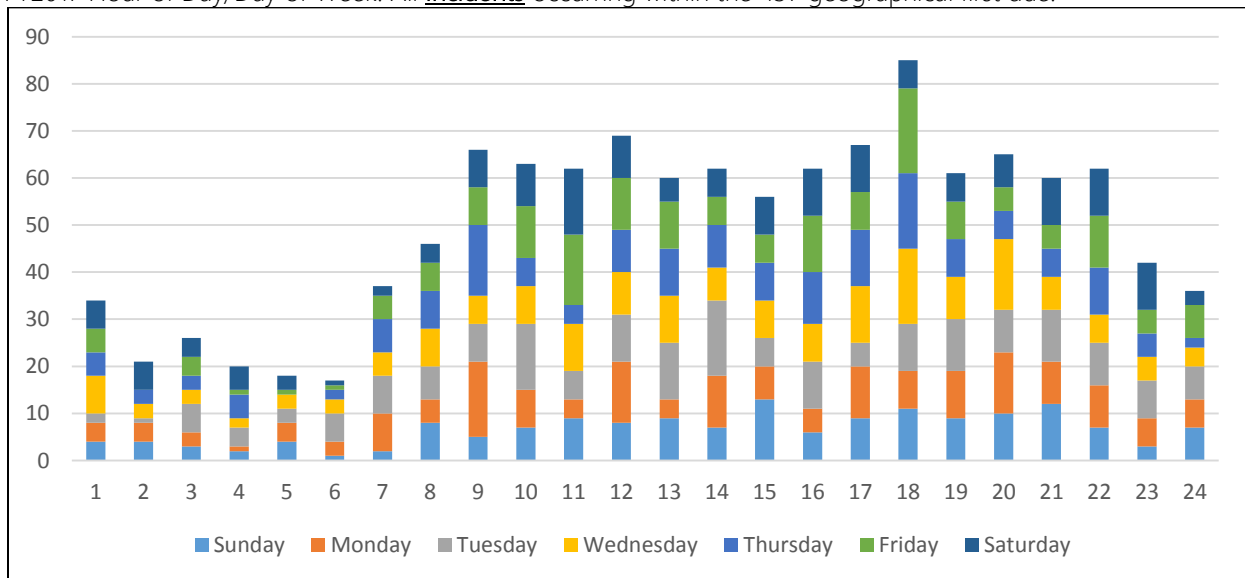
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 37.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	12	8	4	10	12	6	16	68
1	12	10	5	4	6	2	18	57
2	8	7	11	3	7	8	11	55
3	6	3	8	3	5	2	9	36
4	10	10	5	6	1	2	13	47
5	3	9	12	7	8	5	2	46
6	9	10	15	11	11	9	7	72
7	10	28	15	16	21	15	12	117
8	12	35	18	22	46	25	13	171
9	14	24	33	23	27	28	22	171
10	17	34	29	28	19	32	37	196
11	28	37	24	29	29	34	25	206
12	30	20	31	39	33	31	24	208
13	25	20	41	27	32	30	25	200
14	34	19	26	25	37	20	38	199
15	23	26	23	33	27	42	37	211
16	22	36	27	28	35	25	41	214
17	27	31	42	34	48	37	24	243
18	38	31	31	17	25	20	16	178
19	25	27	22	28	24	20	18	164
20	27	32	20	18	14	15	24	150
21	18	20	15	19	35	31	19	157
22	14	8	18	12	11	14	22	99
23	16	18	18	13	10	13	14	102
Total	440	503	493	455	523	466	487	3,367

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 437 geographical first due.



Major Transportation

- State Route 611 (Telegraph Road) a 4-lane divided thoroughfare is running between Zone 419 in the south to Jeff Todd Way.
- State Route 286 (Fairfax County Parkway) a 6-lane divided roadway from State Route 1 to Interstate 95
- State Route 613 (Beulah Street) a 4-lane roadway from Telegraph Road in the south to Franconia Road, Zone 405 in the north
- Kingstowne Village Parkway is a 4-lane roadway from Beulah Street to Kingstowne Blvd
- Jeff Todd Way is a 6-lane divided thoroughfare running between State Route 611 to State Route 1.
- Interstate 95 is an 8-lane controlled access interstate with 3 additional E-ZPass lanes running down the center.

Major Infrastructure

- Kinder Morgan Newington Tank Farm (1,348,000 barrel capacity)
- Numerous bridges crossing over I-95

Major Services and Utilities

- Kinder Morgan Newington Tank Farm (1,348,000 barrel capacity)

Medical Facilities None

County Schools

- Hayfield Elementary School
- Hayfield Secondary School
- Island Creek Elementary School

Governmental Facilities

- U.S. Coast Guard Station
- Crossroads Residential Shelter
- Fairfax Connector Bus service
- Fairfax County Water Authority
- Fairfax County Department of Vehicle Services-South Apparatus

Primary Target Hazard Fire

- Kinder Morgan Newington Tank Farm (1,348,000 Barrel Capacity)
- Over the road haulers into and out of the Kinder Morgan Tank Farm.
- Federal Express shipping center

Primary Target Hazard Non-Fire

Vehicle accidents along all the major transportation routes have the potential to be high speed collisions. Numerous garden style apartment complexes house a high population of this zone's residents. The large number of ponds and creeks pose risk of drowning and ice emergencies year round

DEMAND ZONE 409

Fire Station 409 (Mount Vernon) is located at 2601 Sherwood Hall Lane, Alexandria, VA. in the Mount Vernon Magisterial District of Fairfax County. Daily minimum staffing is 9 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	3,565
ALS Unit-Alpha	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,317
ALS Unit-Bravo	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,347
Battalion Chief	1 Command Officer/EMT-B	640

Population Density: Urban

Number of Fire Boxes: 12

Station Specialties: Fire Station 409 serves as Battalion 6 Headquarters.

Area Description: Fire Zone 409 is predominantly a residential area of 9.69 square miles within the 6th Battalion that serves a population of 40,628. The zone consists of equal amounts of Type-III and Type-V single family, townhouse and older garden apartment buildings. There are numerous strip shopping centers along State Route 1 (Richmond Highway) that produce significant fire hazard. An additional target hazard is Mount Vernon Hospital which is part of the INOVA chain of hospitals. The response area runs parallel with the Potomac River and the George Washington Parkway.

Dispatches for service over the past 3 years:

2017- 8,869 (4.77% Increase)

2016- 8,465 (4.25% Increase)

2015- 8,120

FT2016 Incident Rate per 1,000 Population = 113.59

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	76.6%	66.9%	65.4%	69.7%
Fire	93.7%	95.1%	85.4%	91.5%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:24	00:01:32	00:01:39	00:01:33
Fire	00:01:11	00:01:07	00:01:35	00:01:14
Technical Rescue	00:01:27	00:01:19	00:01:30	00:01:25
HazMat	00:01:10	00:01:05	00:01:25	00:01:16

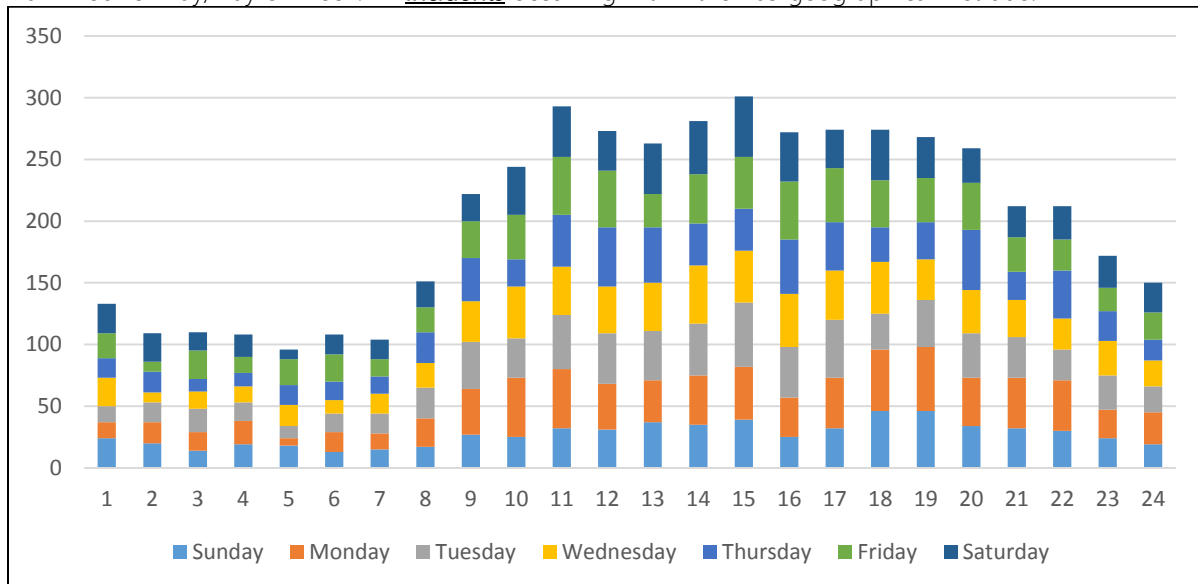
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 09.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	36	24	23	39	25	38	49	234
1	40	34	28	18	31	17	45	213
2	25	30	30	30	17	34	23	189
3	31	30	23	23	24	25	34	190
4	34	11	17	28	28	35	19	172
5	24	28	26	22	30	36	26	192
6	29	23	37	29	29	26	27	200
7	31	37	40	45	48	45	38	284
8	51	62	80	54	49	43	38	377
9	41	65	66	74	45	65	63	419
10	57	83	70	74	77	103	68	532
11	59	57	69	67	74	82	72	480
12	81	72	73	64	72	63	65	490
13	68	79	71	84	67	68	69	506
14	66	73	91	80	59	78	83	530
15	45	62	67	71	76	88	79	488
16	69	76	84	74	82	77	50	512
17	69	91	65	87	58	71	73	514
18	73	84	73	64	58	66	51	469
19	58	72	84	64	88	67	53	486
20	59	80	63	59	44	48	38	391
21	54	78	50	51	79	45	60	417
22	40	47	47	45	43	38	53	313
23	44	37	34	38	30	46	42	271
Total	1,184	1,335	1,311	1,284	1,233	1,304	1,218	8,869

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 409 geographical first due.



Major Transportation State Route 1 (Richmond Highway) running north/south through Fire Zone 409 is a 4/6-lane state highway beginning in Alexandria Virginia running to Richmond Virginia in the south. George Washington Memorial Parkway is a 4 lane undivided highway running along the Potomac River from Great Falls Virginia in Fire Zone 412 to the Mount Vernon Estate in Fire Zone 424.

Major Infrastructure

- Richmond Highway
- George Washington Memorial Parkway

Major Services and Utilities

- Verizon communications building

Medical Facilities

- Mount Vernon Hospital
- Gartland Center
- 8111 Tiswell Dr. (Rehabilitation)
- 1510 Collingwood (Rehabilitation)
- 8033 Holland Rd. (Assisted Living)
- 3709 Shannons Green Way (Assisted Living)
- 7116 Fort Hunt Rd. (Assisted Living)

County Schools

- Fort Hunt Elementary School
- Holling Meadows Elementary School
- Mount Vernon Woods Elementary School
- Riverside Elementary School
- Stratford Landing Elementary School
- Waynewood Elementary School
- Carl Sandburg Middle School
- Walt Whitman Middle School
- Mount Vernon High School

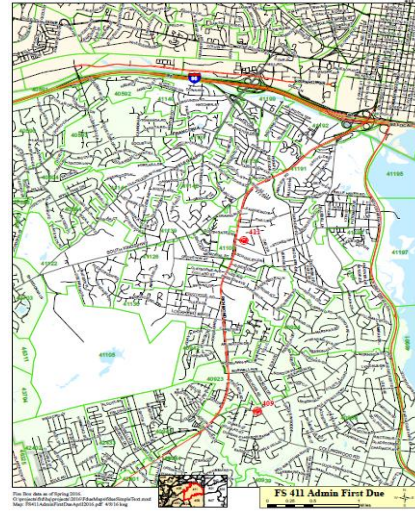
Governmental Facilities

- Gartland Mental Health Facility
- Mount Vernon Police Department Headquarters
- Fire Station 409
- Fairfax County Library

Primary Target Hazard Fire The large number of rehabilitation and assisted living facilities within the zone creates a high risk of loss-of-life in fire situations. A large number of the strip shopping centers along Richmond Highway create risk for large loss fires.

1500 Shenandoah Road, 1510 Collingwood Road, 2501 Parkers Lane, 3709 Shannons Green Way, 7116 Fort Hunt Road, 8111 Tis Well Drive, 8119 Holland Road, 8199 Tis Well Drive, 8534 Old Mount Vernon

Primary Target Hazard Non-Fire Motor vehicle accidents along Richmond Hwy and the George Washington Memorial Parkway have the potential for high speed collisions high degree of mechanism of injury. The Potomac River poses risk of drowning and water craft emergencies year round. A number of medical and care facilities produces EMS response.

DEMAND ZONE 411

Fire Station 411 (Penn Daw) is located at 6624 Hulvey Terrace, Alexandria, VA. in the Lee Magisterial District of Fairfax County. Daily minimum staffing is 16 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	3,366
Truck	1 Officer/EMT-B 1 Driver/EMT-B 2 Firefighter/EMT-B	2,029
Heavy Rescue (HazMat)	1 Officer/EMT-B 1 Driver/EMT-B 2 Firefighter/EMT-B	1,512
ALS Unit-Alpha	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,251
ALS Unit-Bravo	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,306
Brush Truck	Cross Staffed with ALS Crew	6

Population Density: Urban

Number of Fire Boxes: 20

Station Specialties: Fire Station 411 houses one of 4 heavy rescue units staffed by 4 Hazardous Materials Technician personnel. Fire Station 411 is one of 5 fully staffed hazardous materials resources and has 4 of the 22 required minimum daily staffing in the Hazardous Materials program.

Area Description: Fire Zone 411 is an urban zone of approximately 10.94 square miles within the 6th Battalion that serves a population of 45,133. The zone consists of a mixture of commercial, light industrial, and residential occupancies. The occupancies are Type-III and Type-V, single family dwellings, duplex residence, townhomes, commercial strip shopping centers, high-rise buildings, and hotels.

Dispatches for service over the past 3 years:

2017- 11,470 (5.28% Increase)

2016- 10,895 (6.75% Increase)

2015- 10,206

FY2016 Incident Rate per 1,000 Population = 98.77

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	77.5%	76.5%	64.6%	72.9%
Fire	97.0%	88.6%	86.9%	91.0%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:24	00:01:24	00:01:38	00:01:29
Fire	00:01:02	00:01:23	00:01:25	00:01:17
Technical Rescue	00:01:29	00:01:19	00:01:23	00:01:22
HazMat	00:01:15	00:01:13	00:01:37	00:01:26

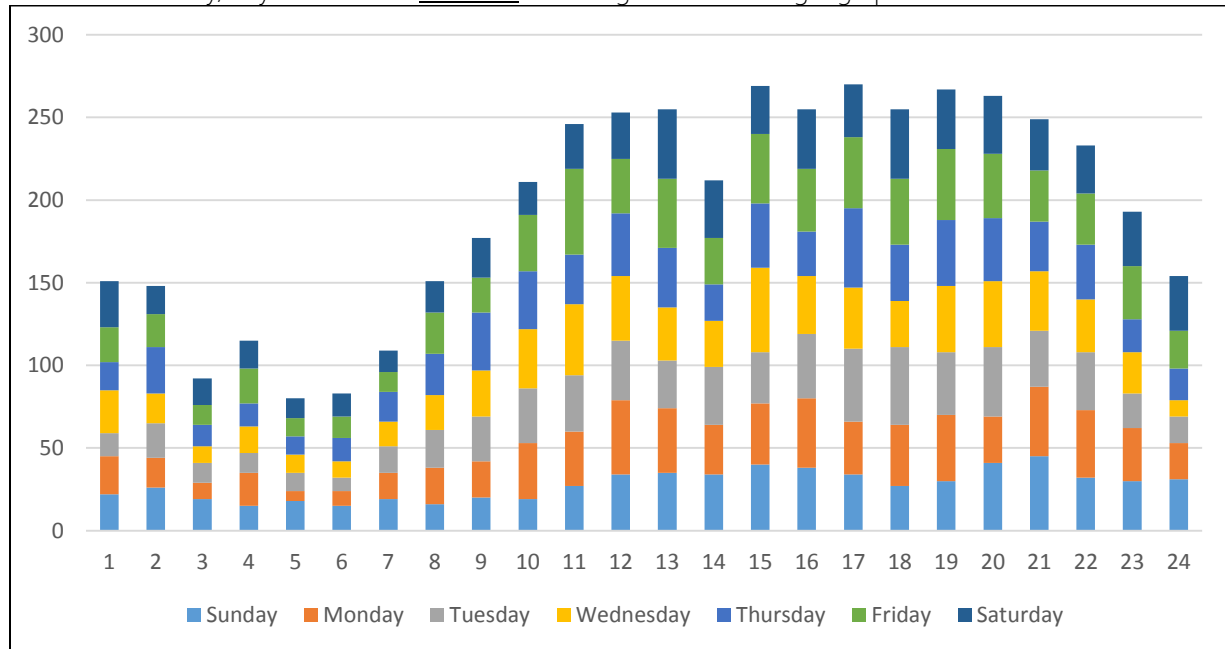
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 11.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	51	52	31	59	31	43	60	327
1	69	32	37	32	60	42	40	312
2	42	26	22	20	24	31	33	198
3	35	30	25	30	28	41	36	225
4	42	15	24	23	29	25	27	185
5	31	19	18	20	30	28	29	175
6	44	36	35	41	44	31	25	256
7	41	63	50	58	66	55	42	375
8	55	57	76	70	84	55	55	452
9	59	89	94	100	85	83	63	573
10	68	95	81	98	82	124	84	632
11	99	111	92	95	99	82	85	663
12	87	95	83	87	103	109	94	658
13	91	87	83	66	74	73	87	561
14	90	84	86	116	100	97	83	656
15	82	98	91	92	89	106	102	660
16	75	100	109	108	120	105	73	690
17	79	97	111	87	84	119	99	676
18	89	93	100	98	97	103	82	662
19	85	88	108	96	93	95	78	643
20	96	105	85	77	66	75	75	579
21	73	94	67	73	97	72	73	549
22	68	63	53	56	43	61	73	417
23	60	47	39	29	37	64	70	346
Total	1,611	1,676	1,600	1,631	1,665	1,719	1,568	11,470

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 411 geographical first due.



Major Transportation State Route 1 (Richmond Highway) running north/south through Fire Zone 411 is a 4/6-lane state highway beginning in Alexandria Virginia running to Richmond Virginia in the south. I-495 is an 8-lane controlled access interstate with four additional express lanes which is part of the Capital Beltway. George Washington Memorial Parkway is a 4 lane undivided highway running along the Potomac River from Great Falls Virginia in Fire Zone 412 to the Mount Vernon Estate in Fire Zone 424 Telegraph Rd, North Kings Hwy, South Kings Hwy, Fort Hunt Road.

Major Infrastructure

- Fairfax County Public Safety Communications radio tower-Beacon Hill
- Washington Metropolitan Area Transit Authority-Metro Blue line and the Huntington Metro Station.
- Dense Commercial and Residential
- I-495 (Capitol Beltway) and Woodrow Wilson Bridge.

Major Services and Utilities: No Major Utility Service Stations

Medical Facilities

- Patient First Urgent Care
- Alexandria Immediate Care

County Schools

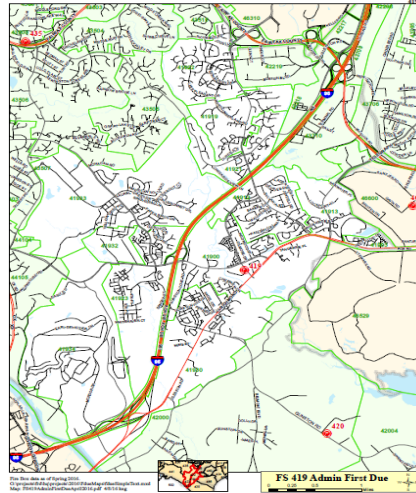
- Quander Road School
- Pulley Career Center
- West Potomac High School
- Mount Eagle Elementary School
- Cameron Elementary School
- Belle View Elementary School
- Bucknell Elementary School
- Hybla Valley Elementary School
- Groveton Elementary
- Bryant Alternative High School

Governmental Facilities

- Fairfax County Fire Station 411

Primary Target Hazard Fire Dense commercial and residential occupancies combined with lower income housing in the single family occupancies create higher than normal risk.

Primary Target Hazard Non-Fire The Potomac River poses risk of drowning and watercraft emergencies year round. Major highways produce motor vehicle accidents which have the potential for high speed collisions with high degree of mechanism of injury. Significant pedestrian traffic, booming commercial and residential active construction sites, Huntington Metro Station, major flooding in Huntington and Belleview areas.

DEMAND ZONE 419

Fire Station 419 (Lorton) is located at 7701 Armistead Road, Lorton, VA. in the Mount Vernon Magisterial District. Daily minimum staffing is 10 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,394
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,131
Heavy Rescue-HazMat	1 Officer/EMT-B 1 Driver/EMT-B 2 Technician/EMT-B	1,142
Brush Truck	Cross Staffed	10

Population Density: Urban

Number of Fire Boxes: 11

Station Specialties: Fire Station 419 houses one of 4 heavy rescue units staffed by 4 Hazardous Materials Technician Personnel. Fire Station 419 is one of 5 fully staffed hazardous materials resources and has 4 of the 22 required minimum daily staffing in the program.

Area Description: Fire Zone 419 is an urban zone of 10.65 square miles located on the southern end of the 6th Battalion and serves a population of approximately 34,893. The zone consists of a mix of Type-III and Type-V, residential and commercial buildings. The residential units include single family homes, garden style apartments, mid-rise condos and a large senior living complex with over 450 residential units. Commercial units include both commercial and medium industrial that are both sprinkled and unsprinkled. Fire Zone 419 is bordered and runs automatic aid on the south by Prince William County, on the northeast with Fort Belvoir.

Dispatches for service over the past 3 years:

2017- 5,677 (2.01% Increase)

2016- 5,565 (14.79% Increase)

2015- 4,848

FY2016 Incident Rate per 1,000 Population = 79.99

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	72.7%	74.1%	60.5%	69.3%
Fire	80.7%	86.5%	89.0%	85.7%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:31	00:01:22	00:01:41	00:01:44
Fire	00:01:39	00:01:28	00:01:21	00:01:29
Technical Rescue	00:01:38	00:01:42	00:01:36	00:01:39
HazMat	00:01:45	00:01:33	00:01:41	00:01:39

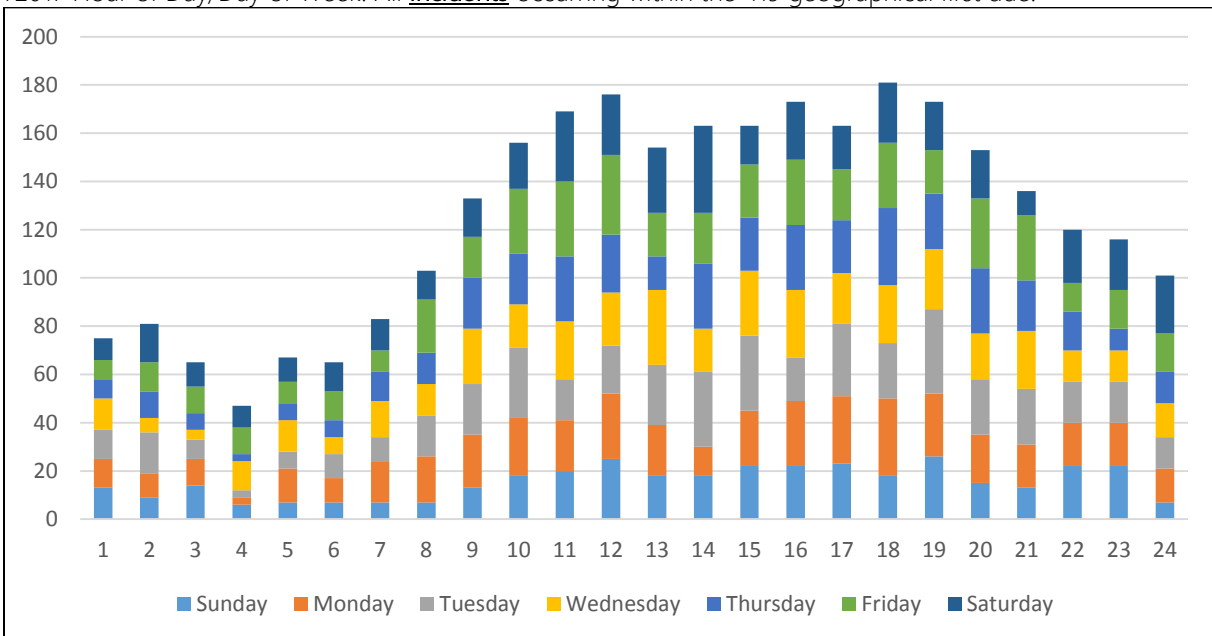
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 19.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	20	24	22	31	16	20	16	149
1	15	17	20	11	16	24	31	134
2	28	20	11	9	14	14	30	126
3	13	6	8	20	10	19	32	108
4	17	24	12	19	13	17	20	122
5	13	20	20	20	15	17	22	127
6	11	33	31	36	30	17	24	182
7	16	40	35	26	32	32	25	206
8	26	33	37	31	47	30	24	228
9	33	37	49	32	30	51	38	270
10	39	40	30	31	35	51	44	270
11	38	44	33	39	48	59	42	303
12	42	31	50	41	24	29	51	268
13	40	26	51	39	59	45	56	316
14	53	40	47	48	44	43	37	312
15	47	49	42	50	47	56	46	337
16	48	66	61	41	36	38	42	332
17	42	54	46	61	64	53	48	368
18	47	54	57	38	49	32	46	323
19	30	41	48	38	49	58	31	295
20	24	32	46	44	38	53	21	258
21	41	41	29	26	35	29	49	250
22	37	40	29	21	16	34	43	220
23	15	19	26	19	24	29	41	173
Total	735	831	840	771	791	850	859	5,677

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 419 geographical first due.



Major Transportation Major Roadways within Zone 419 are:

- Interstate 95 (Henry G. Shirley Memorial Highway) an 8-lane limited access highway and a large, major transportation artery running north to south between Prince William County in the south and Fort Belvoir in the north.
- State Route 1 (Richmond Highway) a 4-lane thoroughfare running from Prince William County to the south and ending at the Pentagon to the north.
- CSX train rail which also serves the Amtrak Auto Train station in Zone 419

Major Infrastructure

- Fairfax County Public Safety Communications radio tower-Lorton
- Fairfax County Noman M. Cole, Jr., Pollution Control Plant
- The Covanta Fairfax - I-95 Energy/Resource Recovery Facility
- Fairfax County I-95 Landfill Complex.
- CSX Heavy Rail
- Bridges over the Occoquan River for I-95 and State Route 1

Major Services and Utilities

- Natural Gas pipeline from Fairfax County Landfill to Pollution Control Plant

Medical Facilities

- Healthplex Lorton Inova
- Belvoir Woods Assisted living
- Fort Belvoir Medical Center (on base but many patients delivered there)

County Schools

- South County High School
- South County Middle School
- Saratoga Elementary School
- Laurel Hill Elementary School
- Lorton Station Elementary School

Governmental Facilities

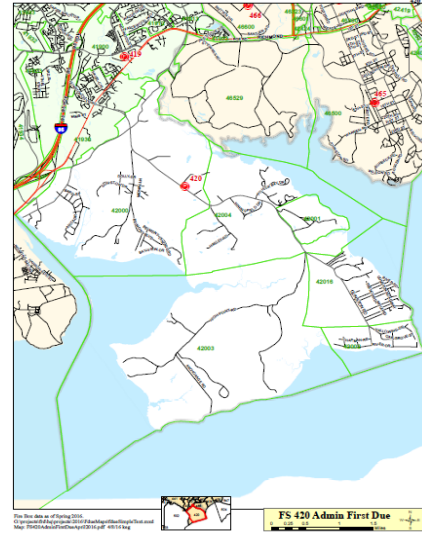
- United States Postal Service, Lorton, VA
- Fairfax County Noman M. Cole, Jr., Pollution Control Plant
- United States Army - Fort Belvoir
- United States Customs Warehouse
- Lorton Prison Complex housing many County services

Primary Target Hazard Fire

Housing on Hagel Circle and several garden style apartment occupancies reside on Lorton Road and Richmond Highway. Mixed-use commercial occupancies reside on Telegraph Road. The Covanta Fairfax - I-95 Energy/Resource Recovery Facility is located on Furnace Road along with the Fairfax County I-95 Landfill Complex. There are several industrial units using complex and hazardous chemicals such as Alexandria Metal Finishers located on Gunston Cove Road.

Primary Target Hazard Non-Fire

Motor vehicle accident dispatches on Interstate 95 and Richmond Highway. Requests for service at the rail stations for the Amtrak Auto Train and the Virginia Railway Express located on Lorton Road. Numerous emergency service requests for the retirement community located at The Fairfax at Belvoir Woods on Belvoir Woods Parkway.

DEMAND ZONE 420

Fire Station 420 (Gunston) is located at 10417 Gunston Road, Lorton, VA. in the Mount Vernon Magisterial District. Daily minimum staffing is 7 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	375
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	533
Tanker	1 Driver/EMT-B	44
Brush Truck	Cross Staffed	9
Boat-Marine Unit	Cross Staffed	77

Population Density: Rural

Number of Fire Boxes: 6

Station Specialties: Fire Station 420 has primary responsibility for Fairfax County's Marine Operations and staffs Fire Boat 420 when dispatched and during the daytime on weekends during the summer months when activity on the lower Potomac is at a peak level.

Area Description: Fire Zone 420 is a rural zone of approximately 20.70 square miles within the 6th Battalion that serves a population of 2,461. The zone consists primarily of single family dwellings that are on large lots of land. The lots can be as large as 50 acres thus causing the need for rural water operations for firefighting. The historic Gunston Hall Plantation is located within Fire Zone 420 as are several large parks. These parks include: Pohick Bay Regional Park,

Mason Neck State Park, and the Bureau of Land Management. Fire Zone 420 also has several miles of shoreline of the Potomac River.

Dispatches for service over the past 3 years:

2017- 1,037 (5.92% Increase)

2016- 979 (10.87% increase)

2015- 883

FY2016 Incident Rate per 1,000 Population = 95.04

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	57.4%	62.4%	55.2%	58.5%
Fire	72.4%	63.2%	87.5%	73.7%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:35	00:01:46	00:01:41	00:01:41
Fire	00:01:49	00:02:02	00:01:21	00:01:44
Technical Rescue	00:01:50	00:01:54	00:02:12	00:01:59
HazMat	00:02:15	00:02:25	00:01:41	00:02:09

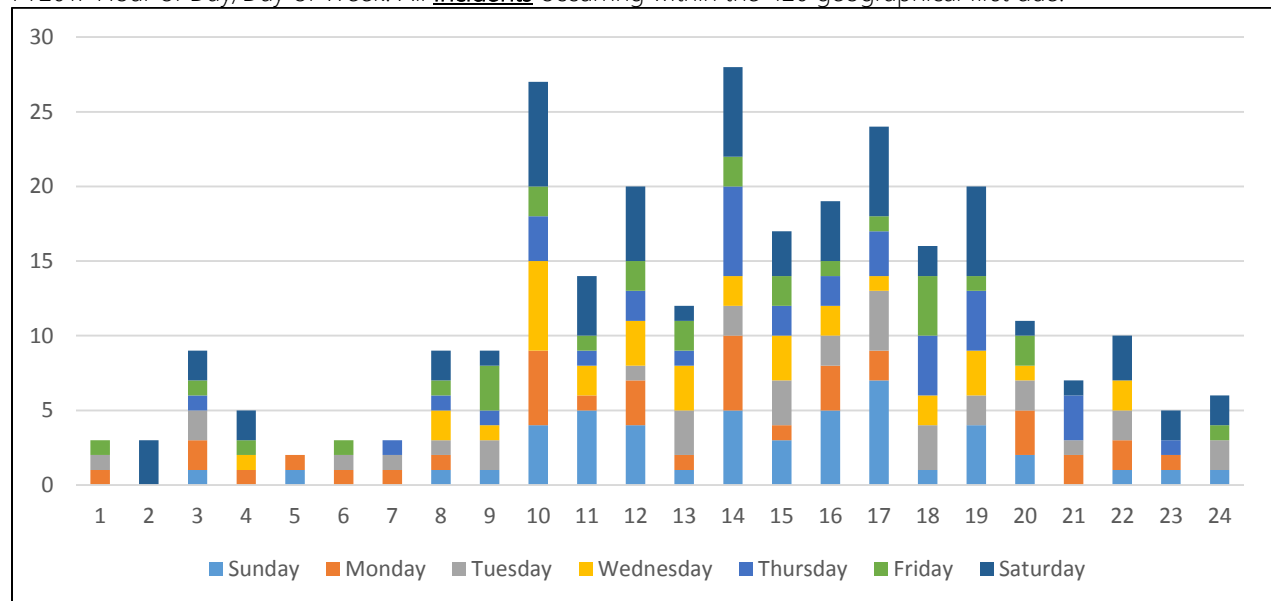
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 20.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	3	3	2	0	1	2	1	12
1	2	0	4	0	1	1	8	16
2	3	2	4	0	4	1	2	16
3	2	2	0	2	0	2	2	10
4	3	1	0	3	0	2	0	9
5	4	5	1	3	0	3	1	17
6	0	0	2	1	0	1	0	4
7	1	6	3	5	4	4	4	27
8	6	4	10	9	7	14	2	52
9	7	11	10	12	9	8	11	68
10	11	7	5	12	7	10	9	61
11	7	16	5	8	10	13	15	74
12	8	10	15	16	8	8	5	70
13	16	10	9	10	16	10	23	94
14	15	4	20	8	6	11	10	74
15	11	11	7	10	17	7	11	74
16	14	10	12	7	9	3	9	64
17	9	7	13	6	14	11	4	64
18	14	6	9	6	11	4	9	59
19	7	11	7	7	7	8	4	51
20	4	5	2	9	7	3	1	31
21	10	2	9	3	5	3	10	42
22	3	4	3	1	5	3	3	22
23	3	1	8	3	4	4	3	26
Total	163	138	160	141	152	136	147	1,037

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 420 geographical first due.



Major Transportation

- Gunston Road is the only major road leading into and out of Zone 420

Major Infrastructure

- Colchester Public Service Water Treatment Plant (10609 Greene Drive)

Major Services and Utilities

- Verizon relay station
- 20,000 gallon water storage tank (6115 Mt. Vernon Blvd)

Medical Facilities None

County Schools

- Gunston Elementary School

Governmental Facilities

- Fairfax County Fire Station 420
- Gunston Hall mansion-historical center
- Pohick Regional Park
- Mason Neck State Park
- Meadowood Recreation Area

Primary Target Hazard Fire

Gunston Hall Mansion is a primary target hazard along with large single family residences in excess of 5,000 square feet located throughout the Zone. The Zone also has Fairfax Yacht Club and Beach's Marina that house numerous pleasure boats and yachts that also has limited access for firefighting. The majority of Zone 420 is non-hydrant.

Primary Target Hazard Non-Fire

The area is responsible for the maintenance and operation of the Fire Department's Fire Boats which are docked at Pohick Bay Regional Park. Fairfax County's Fire Boat responds from the Woodrow Wilson Bridge to Quantico Marina. Camp Wilson is a Boy Scout camp occupied throughout the year. Meadowood Recreation Area has miles of bike trails that pose limited access and ATV420 has been used to access patients for removal to transport units.

DEMAND ZONE 424

Fire Station 424 (Woodlawn) is located at 8701 Lukens Lane, Alexandria, VA. in the Mount Vernon Magisterial District. Daily minimum staffing is 11 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,098
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,804
Truck-Tower	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,250
EMS Supervisor	1 Officer/EMT-P	1,171

Population Density: Urban

Number of Fire Boxes: 8

Station Specialties: Fire Station 424 houses the Emergency Medical Services Supervisor for the 6th Battalion-EMS406

Area Description:

Fire Zone 424 is an urban area of 6.92 square miles within the 6th Battalion that serves a population of 24,582. The zone consists of Type V single family homes and Type III and V garden style apartments. Commercial occupancies consist of low rise office buildings, strip shopping centers, commercial townhouses, and stand-alone commercial structures. Increased

weekday population with commuters to Fort Belvoir Military Base and visitors to George Washington's Mount Vernon Estates.

Dispatches for service over the past 3 years:

FY2017 – 6,323 (2.58% Increase)

FY2016 – 6,164 (0.88% Increase)

FY2015 – 6,110

Incident Rate per 1,000 Population = 100.68

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	61.7%	70.2%	70.6%	67.8%
Fire	79.4%	85.6%	67.8%	78.1%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:47	00:01:32	00:01:35	00:01:37
Fire	00:01:43	00:01:26	00:02:07	00:01:49
Technical Rescue	00:01:57	00:01:28	00:01:58	00:01:49
HazMat	00:01:26	00:01:34	00:02:01	00:01:41

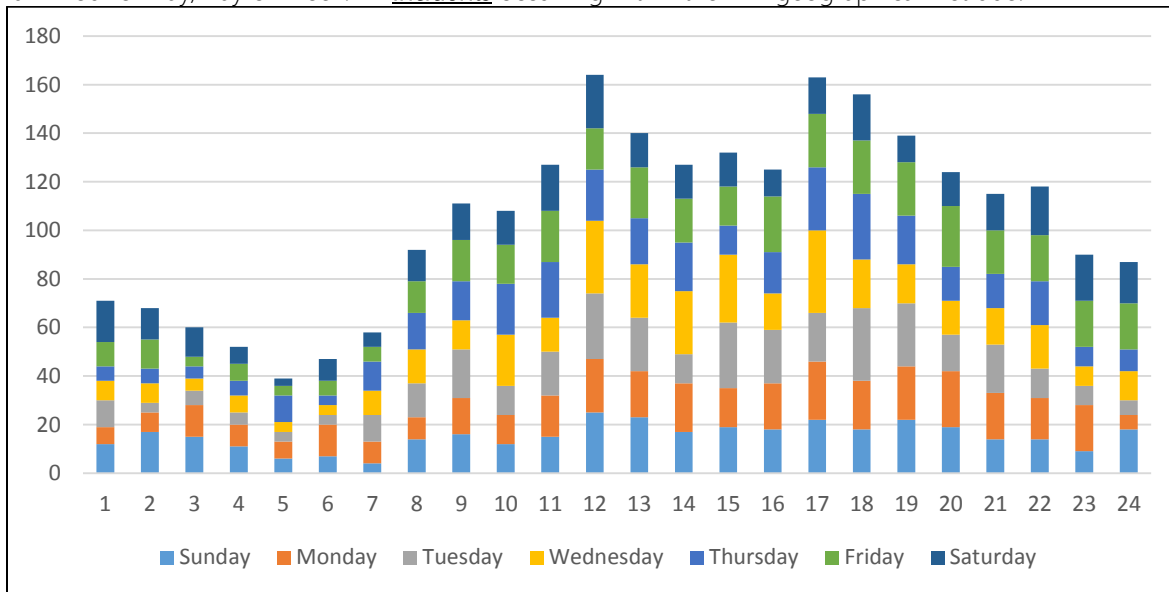
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 24.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	38	17	22	24	17	22	47	187
1	35	15	15	15	16	21	30	147
2	29	26	18	15	14	8	18	128
3	27	18	14	16	15	18	20	128
4	17	15	12	9	21	6	10	90
5	18	21	11	13	10	18	21	112
6	16	20	28	20	32	11	18	145
7	32	28	37	27	37	33	29	223
8	40	39	42	45	41	42	34	283
9	28	43	38	51	38	42	36	276
10	33	53	34	47	61	58	51	337
11	62	55	57	73	57	52	51	407
12	53	48	50	55	39	50	31	326
13	45	43	35	51	51	58	42	325
14	49	46	60	69	40	50	45	359
15	45	50	43	41	52	67	42	340
16	55	52	56	75	57	64	45	404
17	52	51	58	53	75	59	58	406
18	63	64	61	39	45	65	32	369
19	44	52	42	49	52	64	35	338
20	44	52	42	35	39	46	31	289
21	36	46	27	51	59	41	47	307
22	24	40	22	19	22	35	45	207
23	36	17	12	19	27	44	35	190
Total	921	911	836	911	917	974	853	6,323

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 424 geographical first due.



Major Transportation

- U. S. Route One, Richmond Hwy.
- George Washington Parkway
- State Route 268 (Fairfax County Parkway)

Major Infrastructure

- Fairfax County Public Safety Communications Tower- Mount Vernon

Major Services and Utilities

- Accotink Pumping Station, 9201 Richmond Hwy
- Fairfax County Communications Tower, 9128 Richmond Hwy

Medical Facilities

- Fort Belvoir Dialysis, 8796P Sacramento Dr.
- Medical Clinic
- South County Government Center, 8350 Richmond Hwy

County Schools

- Washington Mill Elementary, 9100 Cherry tree Dr.
- Woodlawn Elementary, 8505 Highland La.
- Woodley Hills Elementary, 8718 Old Mount Vernon Rd.

Governmental Facilities

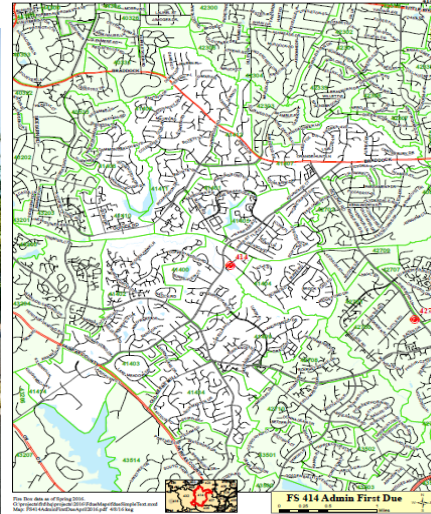
- South County Government Center, 8350 Richmond Hwy
- Eleanor U. Kennedy Shelter, 9155 Richmond Hwy
- U. S. Post Office (USPS), 8588 Richmond Hwy

Primary Target Hazard Fire

- George Washington's Mount Vernon Estates, 3200 Mount Vernon Hwy
- Woodlawn Plantation, 9000 Richmond Hwy
- George Washington's Gristmill, 5513 Mount Vernon Memorial Hwy

Primary Target Hazard Non-Fire

George Washington's Mount Vernon Estates' annual attendance is over one million each year. Any terrorist or lone wolf event at the "Estates" could be significant. In addition, several passenger ships ferry visitors to the Estates via the Potomac River. With any river related event, Fire Zone 424 ground based resources would arrive at the Mount Vernon Estates' wharf before any Fairfax County or mutual aid water resources arrive.

DEMAND ZONE 414

Fire Station 414 (Burke) is located at 9501 Old Burke Lake Road, Burke, VA. in the Braddock Magisterial District. Daily minimum staffing is 10 uniformed personnel. Burke Volunteer Fire Department will staff a support ALS, BLS, and Engine at times. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,906
Heavy Rescue	1 Officer/EMT-B 1 Driver/EMT-B 2 Firefighter/EMT-B	1,153
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	2,043
Brush Truck	Cross Staffed	9
Boat-Swift water	Cross Staffed	18
Other Units	Staffed by Volunteer	326

Population Density: Urban

Number of Fire Boxes: 14 Fire Boxes

Station Specialties: Fire Station 414 houses one of 4 heavy rescue units staffed by 4 Technical Rescue personnel. FS414 is one of 4 fully staffed technical rescue resources and staffs 4 of the 16 required minimum daily staffing for the program. Additionally, one of the county swift water boats and Technical Rescue support unit operate from FS414.

Area Description: Fire Zone 414 is an urban zone of approximately 9.23 square miles within the 7th Battalion that serves a population of 42,825. The zone consists of single family homes,

townhomes, schools, churches, and strip shopping centers. Zone 414 has a rehabilitation center, 3 and 4 story retirement homes. Fire Zone 414 runs automatic aid with Fairfax City.

Dispatches for service over the past 3 years:

2017- 5,485 (5.91% Increase)

2016- 5,179 (2.94% Decrease)

2015- 5,336

FY2016 Incident Rate per 1,000 Population = 58.91

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	62.9%	59.0%	59.0%	60.3%
Fire	78.2%	75.9%	73.7%	76.1%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:40	00:01:51	00:01:52	00:01:48
Fire	00:01:38	00:01:34	00:01:45	00:01:38
Technical Rescue	00:01:35	00:01:43	00:01:35	00:01:37
HazMat	00:01:51	00:02:06	00:01:53	00:01:57

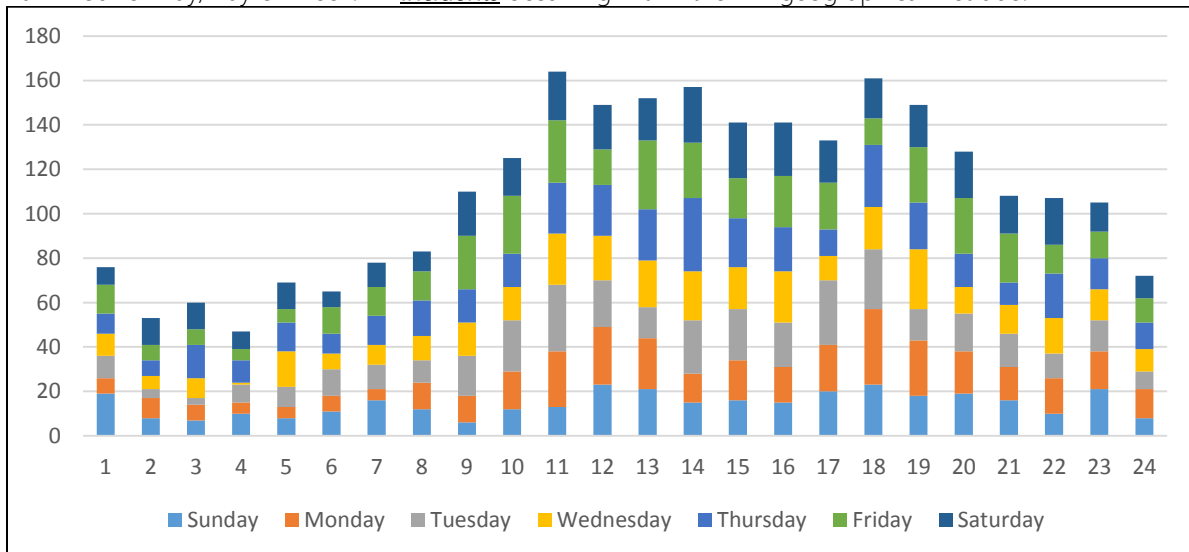
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 14.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	34	14	22	21	17	22	16	146
1	19	17	11	11	13	22	20	113
2	17	13	6	22	28	16	22	124
3	15	11	13	4	21	17	18	99
4	14	9	11	27	22	13	21	117
5	21	14	27	14	17	25	13	131
6	26	14	19	22	27	21	29	158
7	22	21	27	19	28	28	26	171
8	16	28	28	28	47	51	40	238
9	30	40	44	36	41	46	39	276
10	33	41	48	49	33	46	42	292
11	55	51	52	46	48	43	38	333
12	50	43	25	45	48	41	65	317
13	43	29	53	38	60	44	59	326
14	35	38	43	46	41	38	47	288
15	39	33	42	49	34	38	64	299
16	43	42	56	25	32	51	42	291
17	42	52	45	34	54	32	32	291
18	40	58	33	57	37	57	41	323
19	43	44	42	34	30	44	47	284
20	32	42	30	29	34	44	25	236
21	28	49	30	34	40	34	38	253
22	37	42	21	27	34	32	22	215
23	18	29	20	18	30	26	23	164
Total	752	774	748	735	816	831	829	5,485

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 414 geographical first due.



Major Transportation

- State Route 620 (Braddock Road) runs east and west from Columbia Pike in Zone 410 to Rt. 28 in Fire Zone 417.
- State Route 286 (Fairfax County Parkway) runs north and south and reaches from Rt. 7 in Fire Zone 439 to Rt. 1 in Fire Zone 419.
- VRE also runs through the Burke area with a train stop at 9016 Burke Road.

Major Infrastructure

- Verizon, battery backup facility
- VRE Train Station
- CSX Heavy Rail

Major Services and Utilities

- Water and Sewer
- Natural Gas
- Electric
- Communications

Medical Facilities

- Burke Health care and rehabilitation center

County Schools

- Burke School (Middle School)
- Lake Braddock Secondary School
- Fairfax Baptist Temple (Grades K3-12)
- Laurel Ridge Elementary School
- White Oaks Elementary School
- Cherry Run Elementary School
- Knollwood Preschool
- Church of the Nativity (Grades 1-8)
- Holy Spirit School (Grades K-8)

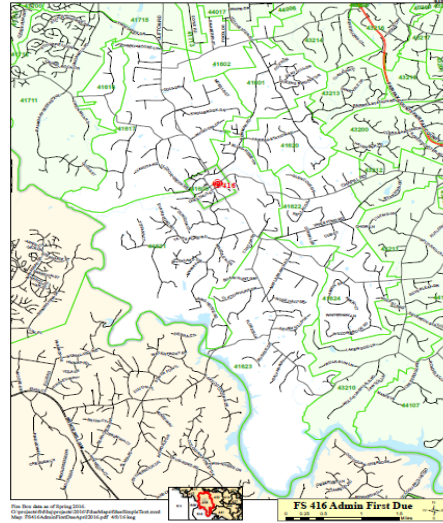
Governmental Facilities

- Fairfax County Fire Station 414
- United States Post Office

Primary Target Hazard Fire Target Hazards in Fire Zone 414 include the Verizon building at 9419 Braddock Road which is a battery back-up facility for Verizon Communications. Burke

Nursery and Garden Center at 9401 Burke Road which stocks a large supply of fertilizers and pesticides. At 5615 Guinea Road is Bowl America due to the amount of combustible surface area. Mixed-use commercial occupancies residing within Fire Zone 414 with their inherent fire spread issues.

Primary Target Hazard Non-Fire Heatherwood Retirement Home, a three story building with approximately 100 apartments. Burke Lake Gardens, a senior living apartment building four stories tall with approximately 120 apartments. Burke Lake Gardens, a primarily Asian community which along with their age, exists a language barrier. VRE Station which transports hundreds of commuters through the Burke area daily.

DEMAND ZONE 416

Fire Station 416 (Clifton) is located at 12645 Chapel Road, Clifton, VA. in the Springfield Magisterial District. Daily minimum staffing is 7 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	468
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	416
Tanker	1 Driver/EMT-B	80
Brush Truck	Cross Staffed	21
Boat	Cross Staffed	10

Population Density: Rural

Number of Fire Boxes: 10

Station Specialties: Fire Station 416 houses one of the county swift water boats which is crossed staffed by other units in the station.

Area Description: A rural area of 17.70 square miles within the 7th Battalion that serves a population of 5,777. The zone consists of houses that are typically on 5+ acre lots, many with barns and other out buildings. Several horse farms and other livestock facilities reside within the zone. 95% of the area is non-hydrant requiring the use of tankers, ponds, and dry hydrants for water sources. Zone 416 currently has 3 dry hydrants located near the town of Clifton, with two more scheduled to be installed in 2017, outside of town. Most roadways are narrow and winding with hills and valleys. The roads are used by commuters trying to cut off time which creates congestion in the town of Clifton and some smaller roads entering the county.

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

Dispatches for service over the past 3 years:

2017- 995 (19.3% Increase)

2016- 834 (0.48% Increase)

2015- 830

FY2016 Incident Rate per 1,000 Population = 65.08

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	46.4%	62.2%	63.7%	57.7%
Fire	68.8%	55.6%	53.8%	59.3%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:54	00:01:47	00:01:52	00:01:51
Fire	00:02:39	00:02:16	00:02:48	00:02:31
Technical Rescue	00:03:09	00:01:16	00:01:44	00:01:44
HazMat	00:01:48	00:01:36	00:00:58	00:01:37

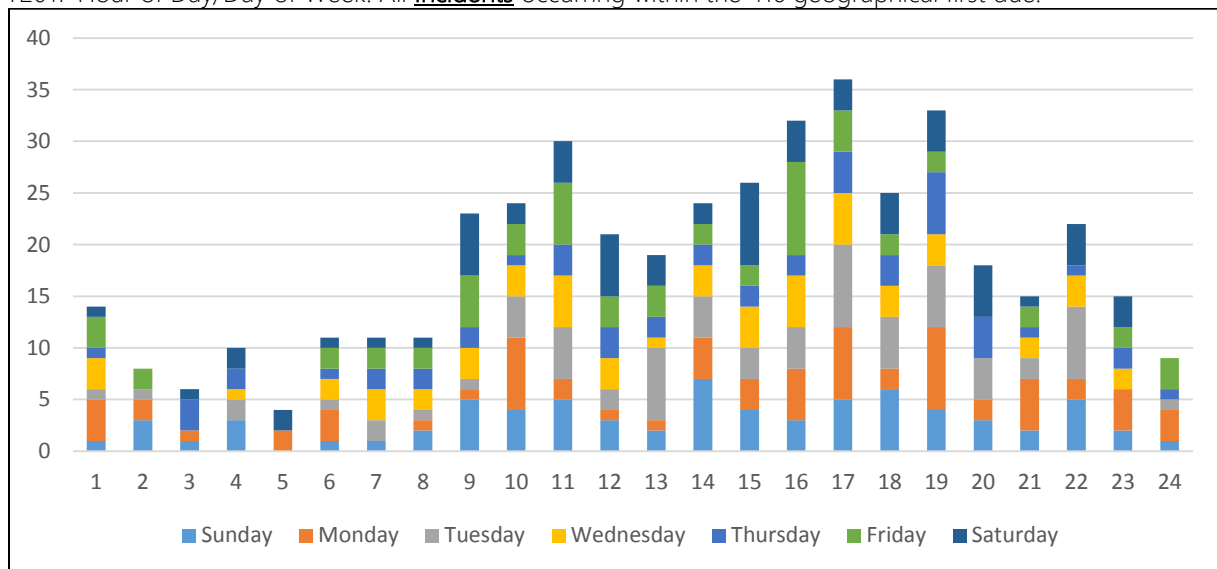
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 16.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	2	8	2	6	2	6	2	28
1	6	4	4	0	3	4	0	21
2	2	1	0	0	6	0	5	14
3	6	0	3	2	4	0	4	19
4	0	4	0	0	2	0	3	9
5	2	6	2	4	2	4	2	22
6	2	0	4	8	4	3	1	22
7	4	2	3	2	3	4	6	24
8	12	5	5	5	5	12	11	55
9	7	10	7	7	1	2	6	40
10	9	7	8	10	10	8	4	56
11	5	5	4	8	7	11	11	51
12	3	7	14	5	7	9	8	53
13	11	7	8	9	3	12	12	62
14	7	6	9	12	7	7	18	66
15	9	12	15	9	6	16	8	75
16	8	11	13	9	10	8	5	64
17	13	4	14	7	10	11	9	68
18	6	12	11	6	15	7	9	66
19	5	5	11	3	9	2	11	46
20	5	12	3	2	6	6	1	35
21	10	6	15	5	5	0	6	47
22	5	7	0	4	4	5	7	32
23	3	4	3	0	3	7	0	20
Total	142	145	158	123	134	144	149	995

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 416 geographical first due.



Major Transportation The Norfolk Southern Railway runs through the area from Mile Post 24.5 to 28.5. Freight service and passenger rail service (VRE and Amtrak) utilize the tracks. There are no major multilane roads in the first due area. Main arteries through the area include Clifton Road, Chapel Road, Colchester Road, Old Yates Ford Road and Henderson Road.

Major Infrastructure Town of Clifton is the busy part of the area, with several eating establishments, stores and churches. Other than these core areas of the First Due, rural water supply operations are needed. There are several recreational areas within zone:

- Bull Run Marina
- Paradise Springs Winery
- Bull Run Occoquan Trail (BROT)
- Hemlock Regional Park
- Kincheloe Park Athletic Fields

Major Services and Utilities

- Colonial Gas Pipe Line
- Plantation Pipeline
- Dominion Virginia Power Lines

Medical Facilities None

County Schools

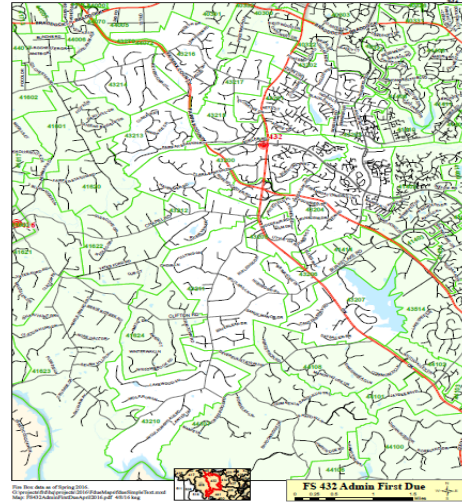
- Clifton Elementary School (CLOSED)

Governmental Facilities

- U.S. Post Office
- Clifton Town Hall and Offices
- Clifton Fire Station 416

Primary Target Hazard Fire Large single family homes with limited water supply.

Primary Target Hazard Non-Fire Winding roads with narrow to no shoulders create risk for significant injury due to motor vehicle accidents. Occoquan Reservoir, Hemlock Overlook Regional Park, and Fountainhead Regional Park create still water hazard resulting in sustained rescue operations. Rail line within zone.

DEMAND ZONE 432

Fire Station 432 (Fairview) is located at 5600 Burke Center Parkway, Fairfax Station, VA. in the Springfield Magisterial District. Daily minimum staffing is 7 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,580
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,536
Battalion 407	1 Officer/EMT-B	542

Population Density: Urban/Rural mixed

Number of Fire Boxes: 16

Station Specialties: Fire Station 432 serves as Battalion Headquarters for the 7th Battalion.

Area Description: Fire Zone 432 is an urban/rural zone of 15.99 square miles within the 7th Battalion that serves a population of approximately 25,111. The zone consists of mixed use and mixed density commercial/residential units. There are a large number of Type-V garden style apartments, condos, townhouses, duplexes and single family homes on the residential side and multiple strip shopping centers on the commercial side. Zone 432 also has a large area with no fire hydrants that require tankers for suppression operations.

Dispatches for service over the past 3 years:

2017- 3,658 (4.66% Increase)

2016- 3,495 (2.48% Decrease)

2015- 3,584

FY2016 Incident Rate per 1, 000 Population = 58.74

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	60.0%	64.5%	66.5%	63.6%
Fire	83.2%	82.8%	77.4%	81.5%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:50	00:01:35	00:01:30	00:01:39
Fire	00:01:34	00:01:32	00:01:37	00:01:33
Technical Rescue	00:01:39	00:01:24	00:01:24	00:01:29
HazMat	00:01:36	00:01:18	00:01:23	00:01:27

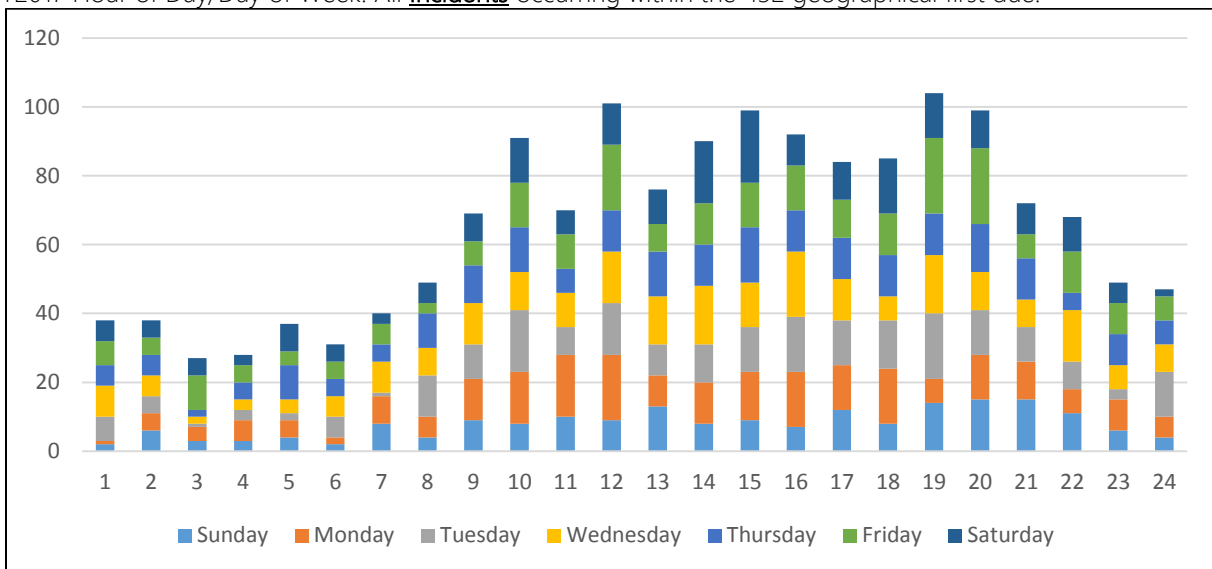
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 32.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	6	4	12	19	9	14	20	84
1	22	14	10	11	12	17	11	97
2	6	8	3	3	3	20	14	57
3	8	11	8	5	12	8	8	60
4	10	10	4	9	13	11	18	75
5	7	4	11	12	7	8	10	59
6	16	18	10	19	8	10	3	84
7	12	15	22	18	15	8	11	101
8	13	31	30	35	23	20	20	172
9	18	31	46	24	25	36	24	204
10	24	38	26	38	27	28	29	210
11	21	38	31	29	24	34	26	203
12	30	26	29	29	29	22	25	190
13	23	25	27	34	33	36	30	208
14	22	30	29	23	33	25	34	196
15	18	36	37	37	32	33	26	219
16	24	36	38	29	23	25	27	202
17	26	40	32	24	35	28	35	220
18	32	23	36	42	26	42	36	237
19	28	33	28	26	32	43	26	216
20	28	22	20	12	34	20	14	150
21	19	18	22	37	17	33	29	175
22	21	30	10	19	12	21	16	129
23	9	14	27	15	17	21	7	110
Total	443	555	548	549	501	563	499	3,658

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 432 geographical first due.



Major Transportation

- State Route 286 (Fairfax County Parkway) which is a 4-lane primary state highway running between Zone 439 in the north and ending in Zone 424 in the south.
- State Route 123 (Chain Bridge Road) which is a 4-lane primary state highway runs running south to north across Zone 432 starting in Woodbridge in the south and ending in Arlington in the north.

Major Infrastructure

- Norfolk Southern Railway Tracks that are utilized by freight, Amtrak, and Virginia Railway Express commuter trains.
- Communications tower at State Route 286 and 123

Major Services and Utilities

- Dominion Virginia Power High Voltage service lines across Wolfe Run Sholes Road
- AT&T and Nextel Communications Facilities

Medical Facilities

- Burke Medical Center-Kaiser Permanente
- Burke Walk-In Medical Clinic

County Schools

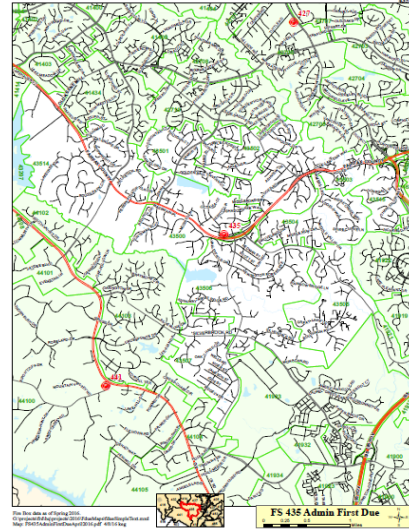
- Bonnie Brae Elementary School
- Fairview Elementary School
- Oak View Elementary School
- Robinson Secondary School
- Terra Centre Elementary School

Governmental Facilities

- U.S. Post Office
- Fairfax County Burke Centre Library
- Northern Virginia Regional Park Authority Headquarters
- Fairfax County Wastewater Facility
- VRE Station
- Fairfax County Fire Station 432

Primary Target Hazard Fire Multiple strip shopping centers. Numerous Type-V garden apartment complexes. Large area of non-hydrant neighborhoods with large homes. Limited access to the Norfolk Southern Railway tracks. Urban/wildland interface.

Primary Target Hazard Non-Fire High speed vehicle collisions along Route 286 (Fairfax County Parkway) through Zone 432. Train/pedestrian collisions along the Norfolk Southern Railway. Numerous lakes and ponds in Zone 432 pose year round threats for water/ice rescues.

DEMAND ZONE 435

Fire Station 435 (Pohick) is located at 7801 Maritime Lane, Springfield, VA. in the Springfield Magisterial District. Daily minimum staffing is 7 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,313
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	1,426
Safety 401	1 Officer/EMT-B	1,059
MCU435-Medical Care Unit	Cross Staffed	1

Population Density: Urban

Number of Fire Boxes: 10

Station Specialties: Fire Station 435 houses Safety Officer 401 which is one of 3 fully staffed Safety Officers on duty each day in the county. Fire Station 435 also cross-staffs one of the mass casualty resources available region wide.

Area Description: Fire Zone 435 is an urban zone of 9.09 square miles located in the 7th Battalion and serves a population of 32,986. The zone consists of Type-V residential single family and townhome residence. A few strip shopping centers and churches. Most residential homes were built from the 1960's to present. Fire Station 435 runs automatic aid with Fort Belvoir North Area.

Dispatches for service over the past 3 years:

2017- 3,799 (3.29% Increase)

2016- 3,678 (5.15% Increase)

2015- 3,498

FY2016 Incident Rate per 1,000 Population = 39.59

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	65.6%	70.0%	59.6%	65.2%
Fire	74.3%	74.2%	68.7%	72.7%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:40	00:01:32	00:01:44	00:01:39
Fire	00:01:47	00:01:57	00:01:52	00:01:51
Technical Rescue	00:02:02	00:02:09	00:01:47	00:01:56
HazMat	00:02:02	00:01:22	00:02:02	00:01:56

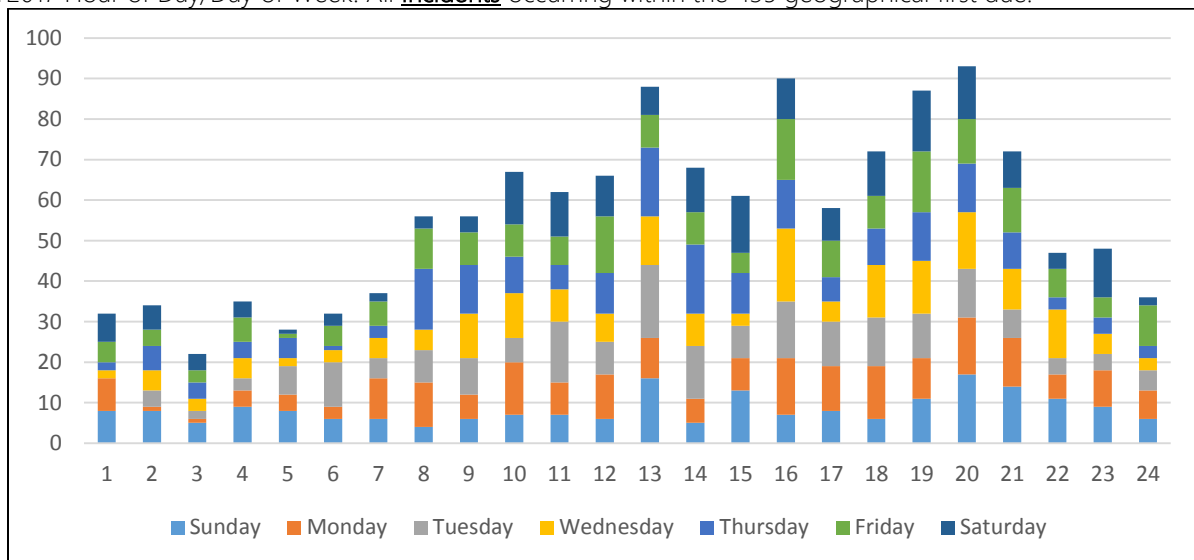
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 35.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	18	17	3	9	6	8	22	83
1	23	6	13	10	13	14	19	98
2	9	5	4	5	11	11	10	55
3	16	9	10	10	9	15	11	80
4	18	9	14	4	15	8	9	77
5	15	5	22	7	4	5	11	69
6	21	18	14	21	10	12	5	101
7	12	27	23	13	37	13	17	142
8	17	18	23	18	31	25	19	151
9	21	37	26	37	24	38	22	205
10	12	26	45	31	16	37	27	194
11	25	35	16	23	26	26	25	176
12	35	23	38	35	31	34	22	218
13	29	25	30	27	41	33	34	219
14	27	27	32	28	38	31	27	210
15	14	33	23	40	28	45	36	219
16	30	39	34	24	26	29	34	216
17	28	35	28	36	41	36	33	237
18	30	33	26	35	23	34	31	212
19	43	32	35	35	34	24	29	232
20	36	33	21	20	28	22	18	178
21	32	25	14	25	17	25	22	160
22	29	22	14	14	16	23	35	153
23	17	17	18	11	17	26	8	114
Total	557	556	526	518	542	574	526	3,799

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 435 geographical first due.



Major Transportation

- State Route 286 (Fairfax County Parkway) which is a 4-lane divided highway which runs through Zone 432 on the east and continues through Zone 422 on the west.
- Hooes Road and Lee Chapel Road are 2-lane feeder roads between State Route 286 and State Route 123. Heavy congestion on these roads during morning and afternoon rush hours.

Major Infrastructure

- Several roadway bridges over Fairfax County Parkway
- Huntsman Lake Dam.
- Lake Mercer Dam

Major Services and Utilities

- Dominion Virginia Power high voltage passage through the south portion of Zone 435.

Medical Facilities

- None

County Schools

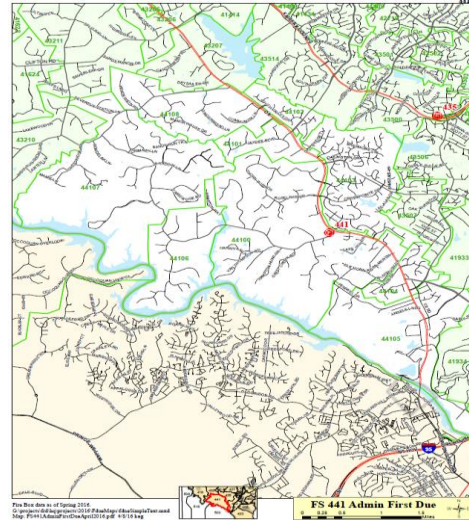
- Sangster Elementary School
- Newington Forest Elementary School
- Hunt Valley Elementary School
- Cherry Run Elementary School

Governmental Facilities

- South Run Recreational Center
- Fairfax County Fire Station 435

Primary Target Hazard Fire Residential single family and townhouses

Primary Target Hazard Non-Fire South Run Recreation Center, numerous manmade lakes and ponds throughout the First Due area create a water and ice rescue hazard year around. Fairfax County Parkway requires response to high speed motor vehicle accidents.

DEMAND ZONE 441

Fire Station 441 (Crosspointe) is located at 9610 Hampton Road, Fairfax Station, VA. in the Mount Vernon Magisterial District. Daily minimum staffing is 12 uniformed personnel. Resources operating out of this facility are:

Resource	Minimum Staffing	2017 Unit Response
Engine	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	717
ALS Unit	1 Firefighter/EMT-B 1 Firefighter/EMT-P	798
Truck-Straight	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	788
Tanker	1 Driver/EMT-B	104
EMS407	1 Officer/EMT-P	865
Brush Truck	Cross Staffed	25

Population Density: Rural

Number of Fire Boxes: 9

Station Specialties: Fire Station 441 houses the Battalion 407 EMS Supervisor. FS441 also has a cross staffed brush truck, swift water boat, and 4x4 ATV.

Area Description: Fire Zone 441 is a rural zone with approximately 15.72 square miles within the 7th Battalion that serves a population of 9,794. The zone consists of approximately 1/3 suburban and 2/3 suburban/rural infrastructure. Many of the rural areas contain large footprint

single family homes built anywhere from the mid-1800s to modern day. Most of these structures are on private roads featuring long driveways with limited access.

Dispatches for service over the past 3 years:

2017- 3,297 (10.6% Increase)

2016- 2,982 (4.89% Increase)

2015- 2,843

FY2016 Incident Rate per 1,000 Population = 58.40

FY2017 Dispatching by Type and Performance against Agency Benchmarks:

Percent Met NFPA Turnout Standard				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	65.1%	64.1%	63.9%	64.4%
Fire	75.5%	70.9%	63.9%	70.7%
Technical Rescue	00.0%	00.0%	00.0%	00.0%
HazMat	00.0%	00.0%	00.0%	00.0%

90 th Percentile Turnout by Shift and Event Type				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	00:01:40	00:01:53	00:01:50	00:01:49
Fire	00:01:54	00:02:12	00:02:15	00:02:06
Technical Rescue	00:01:44	00:02:05	00:01:53	00:02:02
HazMat	00:02:07	00:01:51	00:01:41	00:01:53

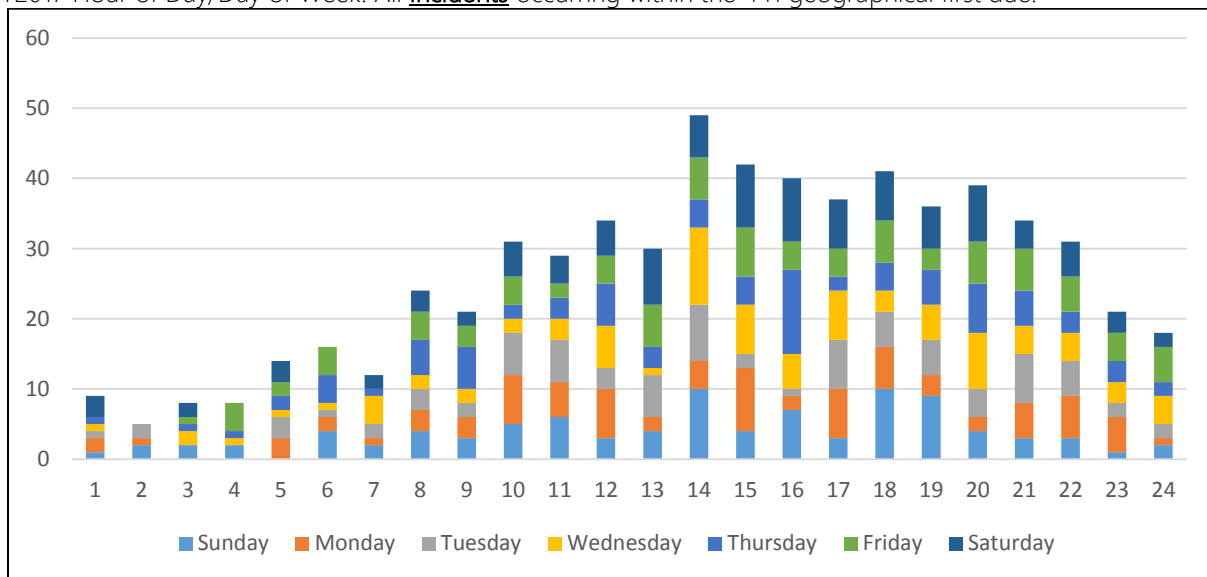
Percent of Time Available for Dispatch-Capacity				
Event Type	A-Shift	B-Shift	C-Shift	Station Total
EMS	%	%	%	%
Fire	%	%	%	%

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

FY2017 Hour of Day/Day of Week: All Unit Responses by units from Station 41.

Hour of Day	1-Sun	2-Mon	3-Tue	4-Wed	5-Thr	6-Fri	7-Sat	Total
0	4	7	6	4	10	5	8	44
1	7	4	9	4	7	14	4	49
2	14	5	2	7	9	4	10	51
3	10	0	3	4	7	10	4	38
4	0	8	7	4	11	7	12	49
5	10	9	9	3	12	10	4	57
6	13	12	12	17	7	10	12	83
7	16	15	14	11	23	17	15	111
8	18	15	17	17	25	19	15	126
9	18	42	26	15	14	25	28	168
10	19	23	40	22	13	24	22	163
11	17	34	20	20	24	30	24	169
12	26	21	26	24	29	20	38	184
13	43	15	38	33	29	36	32	226
14	20	37	26	25	24	25	41	198
15	31	22	25	38	42	28	42	228
16	20	34	35	27	21	27	35	199
17	41	36	35	18	37	33	34	234
18	40	16	33	34	27	22	38	210
19	27	27	29	35	37	34	27	216
20	23	19	26	18	32	28	18	164
21	11	18	25	18	24	30	22	148
22	13	22	11	16	9	14	17	102
23	7	6	7	8	13	28	11	80
Total	448	447	481	422	486	500	513	3,297

FY2017 Hour of Day/Day of Week: All Incidents occurring within the 441 geographical first due.



Major Transportation

- State Route 123 (Ox Road.) is the main north to south thoroughfare in Fire Zone 441. It has a high north bound traffic from 0600 -100 hours and a high southbound traffic from 1600 – 1900.

Major Infrastructure

- Frederick P. Griffith Jr. Water Treatment Plant
- Occoquan River bridge
- Occoquan Reservoir

Major Services and Utilities

- Frederick P. Griffith Jr. water treatment plant
- Vulcan Materials Quarry
- Dominion Virginia Power Primary transmission lines

Medical Facilities None

County Schools

- Silverbrook Elementary School
- Halley Elementary School

Governmental Facilities

- Workhouse Arts Center
- Occoquan Regional Park
- Sandy Run Regional Park
- Fountainhead Regional Park

Primary Target Hazard Fire

Large Type-V single family homes (12,000 square feet) on rural tracts with limited water supply.

Primary Target Hazard Non-Fire

- Frederick P. Griffith Jr. Water Treatment Plant
- Large tanks of hazardous materials stored and used on sight at treatment plant.
- Fountainhead Regional Park mountain bike trails, horse trails, and hiking trails.

2. Standards of Cover

2.1 Resource Deployment

Fairfax County has a daily minimum staffing of 356 full time positions that staff 128 pieces of rolling stock to provide primary first response to the community. An additional 62 pieces of specialty apparatus are strategically positioned based on risk or regional deployment, and crossed staffed to support ongoing operations as they develop. The FCFRD keeps 43 apparatus in reserve to support units in the field for maintenance and repair. The individual volunteer organizations will supplement and up-staff units for high volume or scheduled special events.

Table - FRD Resources and Staffing

Resource Type	Description	# of Units	Staffing Per Unit	Full-Time On-Duty Staffing
Shift Deputy Chief	Operations Deputy Chief	1	2	2
Staffing and Command Post Officer	Daily Staffing and command post Operations Officer	1	1	1
Battalion Chief	Operations Battalion Chiefs	7	1	7
EMS Supervisor	Emergency Medical Services Supervisor	7	1	7
Engine	Pumper (engine) apparatus	38	4	152
ALS Medical Unit	ALS Transport Unit	42	2	84
Truck - Tiller/Tower/Straight	Aerial apparatus	14	4	56
Heavy Rescue (4 HazMat and 4 TROT)	Full time staffed firefighting resource	8	4	32
HazMat	Full time staffed hazardous material response unit	1	6	6
Tanker	Mobile water supply	6	1	6
Safety Officer	Daily Health and Safety Officer	3	1	3
Units Fully Staffed-Total		128		356

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

Mobile Light and Air Unit	Cross Staffed	3	0	0
Fire Boat-Marine Unit	Cross Staffed	2	0	0
Rehab Unit	Cross Staffed	1	0	0
Brush Truck	Cross Staffed	11	0	0
Utility Vehicle	Cross Staffed	7	0	0
Swift Water Boat-Inflatable	Cross Staffed	8	0	0
Flat Water Boat-Inflatable	Cross Staffed	4	0	0
Canteen Unit	Volunteer Staffed	4	0	0
Medical Care Support Unit- MCI	Cross Staffed	3	0	0
Special Hazards Unit - HAZMAT	Cross Staffed	2	0	0
Ambulance Bus - MCI	Cross Staffed	1	0	0
Fire Marshal Mobile Lab	Cross Staffed	1	0	0
Mobile Command Unit	Cross Staffed	2	0	0
Incident Command POD	Cross Staffed	2	0	0
Technical Rescue Support Unit	Cross Staffed	5	0	0
Foam Unit	Cross Staffed	2	0	0
Utility ATV-Gator	Cross Staffed	4	0	0
Units Crossed Staffed-Total	Cross staffed	62	0	0
Reserve Engine	Reserve unit	13	0	0
Reserve Medic	Reserve unit	12	0	0
Reserve Heavy Rescue	Reserve unit	4	0	0
Reserve Aerial Unit	Reserve unit	7	0	0
Reserve Tanker	Reserve unit	1	0	0
Reserve Light and Air Unit	Reserve unit	1	0	0
Reserve HazMat Support Unit	Reserve unit	1	0	0
Reserve Command/EMS Command	Reserve unit	4	0	0
Units in Reserve - Total	Reserve units	43	0	0
Volunteer Engine	Volunteer Staffed	7	0	0
Volunteer Medic Unit - ALS	Volunteer Staffed	7	0	0
Volunteer Ambulance - BLS	Volunteer Staffed	9	0	0
Volunteer SUV	Volunteer Staffed	4	0	0
Volunteer Units that Up-Staff Total	Volunteer Staffed	27	0	0
Total		265		356

2.2 Consistent Provision of Service Across Agency

The Fairfax County Fire and Rescue Department (FCFRD) has established performance benchmarks to provide consistently the highest quality service to protect the lives, property, and the environment of our community. In establishing its benchmarks the FCFRD understands that the single benchmark standard to all service areas and planning zones of the community is in line with NFPA 1710. The FCFRD further understands that its baseline performance will reflect this higher standard in its rural service areas, but is committed to a single performance goal applied consistently to the citizens and community of Fairfax County, Virginia. To provide this level of consistency, the FCFRD has developed a service provision methodology to measure its baseline performance against its established benchmarks in the following manner:

Service Provision Methodology

In performing its community risk assessment, the agency was able to assess, categorize, and classify its risk within its service area. This Standards of Cover is designed to evaluate available resources and match them against the risk to provide consistent provision of service across all demand zones in the community. This is accomplished by:

- Conducting a critical task analysis of each service type
- Measure baseline performance for each service type
- Establish consistent benchmarks for each service type across the entire agency
- Analyze baseline performance against established benchmarks
- Develop short and long term goals to improve service and close the gap between baseline performance and benchmark goals.

2.3 Deployment Considerations

Intergraph Computer Aided Dispatching (I/CAD)

Fairfax County utilizes Intergraph Corporation's Computer Aided Dispatching System (I/CAD) to address everything from call handling and dispatching to remote access and mobile data. I/CAD sends and receives information to various databases maintained by the County. When I/CAD is operational, events are dispatched by a controlling dispatcher through transmittal of a digital I/CAD dispatch message. This message is routed to the I/CAD terminal of stations which have units to be dispatched with a status of available in-quarters. This activates an audible alerting device, turns on designated lights in the station, and opens the radio speakers. Concurrently, a digital message is delivered to the Mobile Communications Terminal (MCT) of any dispatched unit.

I/CAD utilizes the Fairfax County Public Safety Network to support 185 NetDispatcher workstations in the various public safety locations (typically 1 per fire station).

Automatic Vehicle Location (AVL)

When CAD is functional, units are dispatched based on their actual vehicle location via a GPS monitoring device. Calculations for response recommendations are based on speed limits and the mileage from a unit's actual location to the incident scene.

When a unit is in "available in quarters" (AQ) status, their location is based on the fire station XY coordinates. When in "available on radio" (AR) status, units are recommended for incidents based on the units XY coordinates position on the map. If a unit's GPS device is not functioning properly, the unit will be recommended from the XY coordinate of the fire station from which the response area is identified through the AR command.

Fire Box Logic

Each fire station (Demand Zone) has a "First Due" area that is divided into fire-boxes. These boxes are used to assist with locating emergencies; as well as administrative ownership of target hazards and locations of interest. Divided highways are further divided up into their own box assignments.

Traffic Signal Preemption

Fairfax County historically has not used traffic preemption devices other than directly connected to the fire station. Over the past 5 years the agency has worked with other public entities to begin using installation of these systems in new traffic control devices through grant funding and external agreements. Retro-fitting existing control devices has demonstrated to be cost prohibitive.

Unit Types and Staffing

Company Type	Number of Units	Minimum Staffing	Personnel	Apparatus Capability
Operations Deputy	1	2	Deputy Chief Officer/EMT-B	Command vehicle
Battalion Chief	7	1	Battalion Chief	Command vehicle
EMS Supervisor	7	1	1 Officer/EMT-P	Command vehicle w/EMS cache
ALS Transport	42	2	1 Firefighter/EMT-B 1 Firefighter/EMT-P	Advanced Life Support transport unit
Engine	38	4	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	1250 GPM pump, 750 gallon booster tank, 40 gallon foam tank
Truck	14	4	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	100 foot aerial and a full complement of NFPA 1901 compliant ground ladders.
Heavy Rescue	8	4	1 Officer/EMT-B 1 Driver/EMT-B 1 Firefighter/EMT-B 1 Firefighter/EMT-P	Heavy extrication equipment
HazMat Unit	1	6	1 Officer/EMT-B 1 Driver/EMT-B 3 HazMat Technician/EMT-B 1 HazMat Technician/EMT-P	Mobile HazMat diagnostic lab with support unit

Minimum daily staffing 356 personnel

Response Levels

FCFRD uses event type to determine response levels. The call taker, based on information given by caller, determines the event type. As more information is gathered an event may be updated and changed to a more appropriate event type. Currently there are 97 event types within the 5 service categories, each with a pre-determined response level. Although each event type has its own pre-determined response, a large percentage of incidents will fit into one of the following response levels:

A single unit response -- used for an incident of a minor nature such as a BLS emergency or public service or an investigation.

A double response -- used for an emergency of an elevated or more critical nature such as an ALS emergency, vehicle fire without exposure, or a general fire alarm in a structure. This event

may be two suppression units or in the case of an ALS emergency, one suppression unit and one transport unit for a total of 6 personnel with a minimum of 2 ALS providers.

Divided highway response -- used for vehicle accidents or fires on controlled access roadways. Units are sent from two directions to ensure no delayed response due to reporting party giving wrong information on location. Normal response will be 2 engines and 2 medic units. If entrapment is suspected, 1 heavy rescue, 1 BC, and 1 Safety Officer will be added

A full alarm response or “Box Alarm” -- used for report of incident that is significant in intensity, magnitude or scope and will require adequate resources to operate within an IDLH and support functions in addition to primary tactical objectives. Examples of a full response are reported structure fire in a building. A full alarm will consist of 4 engines, 2 truck companies, 1 heavy rescue, 2 BC units, 2 EMS Supervisors, 1 ALS unit, 1 Safety Officer. If fire is in a high-rise (High Risk), a 5th engine will be dispatched for building/lobby support. All confirmed working fires will add a RIT-Level 1 that will report to the RIT engine. RIT-Level 1 consists of 1 engine, 1 truck or heavy rescue, 1 medic.

Multi-Alarm -- additional alarms to a full alarm will consist of 3 engines, 1 truck, 1 medic, 1 BC, command aide, and Light and Air Unit.

Resiliency

Resiliency as defined by CPSE in the FESSAM 9th edition: “an organization’s ability to quickly recover from an incident or events, or to adjust easily to changing needs or requirements. Greater resiliency can be achieved by constant review and analysis of the response system and focus on three key components:

- Resistance: The ability to deploy only resources necessary to safely and effectively control an incident and bring it to termination.
- Absorption: The ability of the agency to quickly add or duplicate resources necessary to maintain service levels during heavy call volume or incidents of high resource demand.
- Restoration: The agency’s ability to quickly return to state of normalcy.

The FCFRD manages all three elements through a combination resource deployment policy, staffing of a Uniformed Fire Officer (UFO) in the dispatch center and CAD software. Resistance is addressed through resource deployment S.O.P. 05.04.01 and the pre-determined response algorithms generated by response type dispatching. These systems, combined with clear policy controlling self-dispatching, limits the “action imperative” effect of available resources self-dispatching.

Absorption is accomplished with the use of a UFO position in the dispatching center. The UFO constantly monitors the available FCFRD resource levels across the agency. When a specific geographic area is depleted of adequate coverage, the UFO will initiate apparatus relocations to cover unit and supervisory (Battalion Chief and EMS Captain) vacancies. UFOs utilize computer software and relocation guidelines approved by Operations and a computer software interfaced

with the CAD system to insure the best possible coverage. The computer software program, Live MUM, is used to assist in monitoring resource deployment. Connecting with the CAD in real time, Live MUM identifies holes in coverage or changes in a unit's status then recommends instantaneously the optimal move-ups for apparatus.

Restoration is addressed using a system of "Response Conditions" initiated by the UFO with concurrence of the duty Operations Deputy Chief.

- Normal operations are considered Condition I. During Condition I operations, with the Computer Aided Dispatch (CAD) system operational, the emergency incident information is transmitted through the CAD system to the appropriate station and unit terminals in normal operational mode.
- Condition I is downgraded to Condition II during an extended period of increased incident response. While in Condition II, initial response compliments to frequent event types such as fire alarms, accidents, and wires are reduced to conserve the availability of units. Condition II brings a need for increased situational awareness by all on duty personnel. Typically, Condition II is associated with heavy thunderstorms, ice/snow storms, or some other significant factor. The decision to move to Condition II is at the discretion of the UFO.
- Condition I or II is downgraded to Condition III when greater than 50% of FCFRD units are either committed to incidents or out of service. Typically, Condition III is associated with peak incident response (multiple working incidents). Condition III brings a need for increased situational awareness by all on duty personnel. While in Condition III, responses will be reduced dramatically to conserve resources. Condition III gives notification to all FCFRD personnel of the critical shortage of units available for calls. Condition III can only be authorized by the Deputy Fire Chief or higher.

2.4 Critical Tasking

Emergency Medical Services

Incidents requiring emergency medical treatment and possible transport that are not classified as technical rescue were considered for this section. As a fire-based EMS service provider, the FCFRD is responsible for BLS response, ALS response and transport to emergency medical facilities. The FCFRD is currently licensed for 42 Advanced Life Support (ALS) units. Like all service category's, the risk assessment for emergency medical incidents has been categorized as low, moderate, high, and maximum risk.

Low Risk Emergency Medical

Low risk medical emergencies typically will involve minimal intervention on the part of response resources. One crew of two or four personnel is often sufficient to establish contact and assess the patient. Example of a low risk emergency would be a BLS incident. The following table depicts the critical tasking and staff necessary for mitigation and the resources assigned a low risk medical emergency.

Critical Task Analysis for Low Risk Emergency Medical Incidents

Critical Task	Minimum Personnel	Dispatched Units	Crew
Command	1	1 Suppression	4
Treatment/Transport	1	or	
		1 Medic	2
Total ERF Needed	2	Dispatched	2 or 4

Moderate Risk Emergency Medical

Moderate risk medical emergencies will involve more intervention on the part of response resources. Two crews with total of 6 personnel with minimum of 2 ALS providers is often sufficient to assess and treat the patient. These calls represent the largest group of ALS emergencies. The following table depicts the critical tasking and staff necessary for mitigation and the resources assigned a moderate risk medical emergency.

Critical Task Analysis for Moderate Risk Emergency Medical Incidents

Critical Task	Minimum Personnel	Dispatched Units	Crew
Command	1	1 Suppression	4
ALS	1	1 Medic	2
BLS Support	1		
Transport	2		
Total ERF Needed	6	Dispatched	6

High Risk Emergency Medical

High risk emergency medical incidents include more than one patient, and/or police action event where resources will need higher level of coordination and management allowing the providers to focus on patient care, or a special circumstance with increased risk such as a Metro right-of-way. The following table depicts the critical tasking and staff necessary for mitigation and the resources assigned a high risk medical emergency.

Critical Task Analysis for High Risk Emergency Medical Incidents

Critical Task	Minimum Personnel	Dispatched Units	Crew
Command	1	1 Battalion	1
Triage	2	1 EMS Supp	1
ALS	2	1 Engine	4
BLS	3	1 Rescue	4
Treatment Supervisor	1	2 Medics	4
Total ERF Needed	9	Dispatched	14

Maximum Risk Emergency Medical

Maximum risk medical emergencies are those events that would require the presence of enough personnel to handle multiple patients or tasks associated with complex rescues. In many situations, this would necessitate an MCI response in accordance with FRD dispatch procedures. The table lists the critical tasking for high risk medical emergency incidents and the resources typically dispatched.

Critical Task Analysis for Maximum Risk Emergency Medical Incidents (MCI)

Critical Task	Minimum Personnel	Dispatched Units	Crew
Command	2	1 Battalion	1
EMS Operations	3	3 EMS Supp.	3
Safety	1	10 Medics	20
Staging	1	10 Engine	40
Triage	2	1 MCI unit	2
Treatment		1 Ambo Bus	2
ALS	8	1 Mobile Comm	2
BLS	8		
Total ERF Needed	25	Dispatched	69

Fire Suppression

Low Risk Fire Incidents

Low risk fires usually involve the response of single fire unit with pump capabilities. These types of fire incidents should normally be minor in intensity, magnitude or scope and may be effectively handled by one company. Low risk fires usually involve brush, dumpster with no exposure threats to structures. The following table depicts the critical tasking and staff necessary for mitigation and the resources assigned to low risk fires.

Critical Task Analysis for Low Risk Fire Incidents

Critical Task	Minimum Personnel
Command	1
Pump Operator	1
Attack Line	2
Total ERF Needed	4

Dispatched Units	Crew
1 Engine	4
Dispatched	4

Moderate Risk Fire Incidents

Moderate risk fires will typically involve the response of a primary first alarm assignment (Box Alarm). These types of fire incidents are usually confined to a single structure or involve only contents. Moderate risk fires usually involve a single family dwelling or residence with little risk of extension to surrounding exposures. The following table depicts the critical tasking and staff necessary for mitigation based on NFPA1710, and the resources assigned by FCFRD.

Critical Task Analysis for Moderate Risk Fire Incidents

Critical Task	Minimum Personnel
Command/Accountability	1
Water Supply	1
Fire Attack- 2 lines	4
Utilities/Forcible Entry/BU	2
Search and Rescue	2
Ground Ladders/Ventilation	3
RIT	2
Total ERF Needed	15

Dispatched Units	Crew
2 Battalion	2
2 EMS Supp	2
4 Engines	16
2 Trucks	8
1 Rescue	4
1 Medic	2
1 Safety Officer	1
1 Investigator	1
Dispatched	36

High Risk Fire Incidents

Like moderate risk fires, high risk fires also involve an initial full primary alarm assignment, (Box Alarm). High risk fires have the potential to involve not only an involved structure, but exposures as well. Often, high risk fires will involve the request for additional alarm assignments, though those additional resources are not reflected in the CTA. The following table depicts the critical tasking and staff necessary for mitigation based on NFPA1710, and the resources assigned by FCFRD. Examples of high risk fires may be strip shopping centers, and multi-family dwellings excluding mid-rise and high-rise structures.

Critical Task Analysis for High Risk Fire Incidents

Critical Task	Minimum Personnel
Command	2
Water Supply	2
Safety	1
Fire Attack – 3 lines	6
Utilities/Forcible Entry/BU	3
Search and Rescue	4
Ground Ladders/Ventilation	4
Aerial Operator	1
RIT	4
Medical	2
Total ERF Needed	29

Dispatched Units	Crew
2 Battalions	2
2 EMS Supp.	2
4 Engines	16
2 Trucks	8
1 Rescue	4
1 Medic	2
1 Safety Officer	1
1 Investigator	1
Dispatched	36

Maximum Risk Fire Incidents

Maximum risk fire incidents involve a high risk fire incident response with additional alarm assignments. This will involve automatic move-up relocation of uninvolved units to areas within the agency that have been depleted of resources to maintain sufficient coverage across the jurisdiction. The following table depicts the critical tasking and staff necessary for mitigation based on NFPA1710, and the resources assigned by FCFRD. Example of maximum risk fires are fires involving a high-rise building.

Critical Task Analysis for Maximum Risk Fire Incidents

Critical Task	Minimum Personnel
Command	2
Water Supply	1
Fire Attack – 3 Lines	6
Utilities/Forcible Entry/BU	3
RIT	4
Search and Rescue	4
Interior Operations Command	2
Building Evacuation	4
Elevator Support	1
Safety	1
Staging	1
Rehab	2
Ventilation	4
Lobby Control	1
Equipment Transport	2
Base Operations	1
Medical	4
Total ERF Needed	43

Dispatched Units	Crew
2 Battalion	2
2 EMS Sup	2
5 Engines	20
2 Trucks	8
1 Heavy Rescue	4
1 Medic	2
2 Safety Officers	2
1 Investigators	1
Dispatched	41

- By department operating guidelines, all fire responses that have confirmed fire shall initiate a RIT Level I request by the first arriving unit. The RIT Level I will add 1 Engine, 1 Truck/Rescue and 1 Medic for a total of 10 personnel.
- By department operating guidelines, a confirmed fire in a maximum risk structure shall initiate an additional alarm in addition to the RIT Level I request. Every alarm after the initial alarm will equal: 3 Engines, 1 Truck, 1 Battalion Chief, Operations Deputy Chief/Aide, and Light and Air unit for a total of 22 additional personnel. The addition of a second alarm and the RIT Level I assignment will total 32 additional personnel.

Hazardous Material Incidents

Low Risk Hazardous Materials

Limited emergency condition which can be controlled by a single unit response. The incident is confined to a small area, and does not require evacuation of anything other than the involved structure or the immediate outdoor area. This incident will not require the use of specialized chemical protective clothing or equipment.

Critical Task Analysis for Low Risk Hazardous Materials Incidents

Critical Task	Minimum Personnel
Command/ Safety	1
Mitigation	2
Total ERF Needed	3

Dispatched Units	Crew
1 Suppression	4
Dispatched	4

Moderate Risk Hazardous Materials

Limited emergency condition which can be controlled by a two unit response utilizing a satellite HazMat Rescue Company. The incident is confined to a small area, and does not require evacuation of anything other than the immediate outdoor area. This incident will not require the use of specialized chemical protective clothing or monitoring equipment not carried on all suppression apparatus.

Critical Task Analysis for Moderate Risk Hazardous Materials Incidents (GASAOUT)

Critical Task	Minimum Personnel
Command/Accountability	1
Air Monitoring	2
Water Supply	1
Attack line	2
Total ERF Needed	6

Dispatched Units	Crew
1 Engine	4
or	
1 Truck	
1 Rescue	4
Dispatched	8

High Risk Hazardous Materials

Emergency condition involving a greater hazard or larger area which poses a potential threat to life or property and may require a limited evacuation or protection in place of the surrounding area. Specialized chemical protective clothing and monitoring/sampling equipment may be required.

Critical Task Analysis for High Risk Hazardous Materials Incidents (HAZMAT)

Critical Task	Minimum Personnel
Command/Accountability	1
HM Branch	1
Research	1
Entry	1
Decon	1
Logistics	1
Medical	1
Water Supply	1
Entry Team	4
RIT	4
Mitigation	4
Decon Workers	2
Rehab/Medical	1
Total ERF Needed	23

Dispatched Units	Crew
1 Battalion	1
1 EMS Supp.	1
1 Safety Officer	1
2 Engine	8
1 Rescue	4
1 HazMat	6
1 Medic	2
Dispatched	23

- The Hazardous Materials program operates 1 primary HazMat unit staffed with 6 Hazardous Materials Technicians and 4 satellite Heavy Rescues staffed with 4 Hazardous Materials Technicians. Minimum daily staffing for HazMat Technicians is 22.
- The Hazardous Materials program operates 2 cross staffed Foam Units and 2 cross staffed Special Hazard Units in addition to the minimum daily staffed units.

Maximum Risk Hazardous Materials

Emergency condition involving a severe hazard or large area which poses an extreme threat to life and property and will probably require plume modeling and possibly a large scale evacuation. Specialized chemical protective clothing may be required in addition to special mitigation equipment and processes. Examples of maximum risk events would be a biological hazard, large chemical or flammable liquid spill inside/outside of a structure, or fire in a tank farm

Critical Task Analysis for Maximum Risk Hazardous Materials Incidents (ABIOHZ)

Critical Task	Minimum Personnel	Dispatched Units	Crew
Command	1	1 DFCO	2
HM Branch	1	1 Battalion	2
Research	1	1 EMS Supp	2
Entry	1	1 Safety Officer	1
Decon	1	4 Engines	16
Logistics	1	1 Truck	4
Medical	1	1 Tower Ladder	4
Water Supply	1	2 Rescues	8
Entry Team	4	1 HazMat	6
RIT	4	4 Medics	8
Decon Workers	8	1 SHU	4
Rehab/Medical	2	1 MCP	4
		1CSU	2
Total ERF Needed	28	Dispatched	63

Technical Rescue

Technical rescue covers a variety of circumstances that require specialized skills and equipment. FCFRD has dedicated teams for water rescue, search and rescue, and special rescue (confined, high angle and trench rescue).

Low Risk Technical Rescue

Limited rescue condition which can be handled by a single or double unit response.

Critical Task Analysis for Low Risk Technical Rescue Incidents

Critical Task	Minimum Personnel	Dispatched Units	Crew
Command/ Safety	1	1 Suppression	4
Rescue	2	Dispatched	4
Total ERF Needed	3		

Moderate Risk Tech Rescue

Rescue condition which can be controlled by a primary response. The incident may require specialized knowledge and equipment but not the assembly of a specialized team. Examples may be accident with person trapped, vehicle into a structure with moderate damage to structure, or ice rescue. Moderate risk events will normally be short duration incidents.

Critical Task Analysis for Moderate Risk Technical Rescue Incidents (ACCITF)

Critical Task	Minimum Personnel	Dispatched Units	Crew
Command	1	1 Battalion	1
Safety	1	1 Engine	4
Triage	1	1 Rescue	4
ALS	2	2 ALS	2
BLS	2	Safety	1
Extrication	2	1EMS Sup	1
		Dispatched	15
Total ERF Needed	9		

High Risk Technical Rescue

Complex rescue condition that will likely be extended in duration and require the use of specialized knowledge and resources with the assembly of a specialized team. Example may be a cave-in, swift water rescue, aerial or below grade rescue.

Critical Task Analysis for High Risk Technical Rescue Incidents (CAVIN)

Critical Task	Minimum Personnel	Dispatched Units	Crew
Command	1	1 Battalion	1
Accountability	1	1 EMS Supp.	1
Safety	2	1 Safety Officer	1
Task Force Leader	1	1 Engine	4
Entry Team Officer	2	1 Tower Ladder	4
Entry Team	2	2 Rescues	8
Backup Team	2	2 Medic	4
Attendant	2	2 Support Units	8
Logistics	2		
ALS	2		
Rope Team/shoring team	4		
Total ERF Needed	25	Dispatched	31

Maximum Risk Technical Rescue

Rescue condition involving a severe hazard or large area which poses an extreme threat to life and property and will probably require a large scale rescue effort. Will require the use of specialized knowledge and resources with the assembly of a specialized team. Example may be rescue in a tunnel or incident involving a train or light rail Metro. A maximum risk technical incident may add an additional alarm response.

Critical Task Analysis for Maximum Risk Technical Rescue Incidents (RTUNNEL)

Critical Tasking	Minimum Personnel	Dispatched Units	Crew
Command	1	2 Battalion	2
Accountability	1	2 EMS Supp.	2
Safety	1	1 Safety Officer	1
Search/Triage	8	2 Engines	8
Task Force Leader	1	1 Tower Ladder	4
Entry Team Officer	1	1 Truck	4
Recon	4	4 Rescues	16
Entry Team	4	TRS439	4
Back-up Team	4	2 Medics	4
Air Monitoring/Ventilation	2	1 HazMat Unit	6
COMMS System	1	1 MCP	4
Air Supply Unit	2	1 DFCO	2
Medical	4	1 LandA	2
Total ERF Needed	34	Dispatched	59

2.5 Baseline Performance

Performance Methodology

Response Metrics

First-in measures the time of the first unit to arrive on the scene of an emergency incident. This unit will be able to assume incident command, perform a scene size-up, give an initial report and make assignments to other responding companies. All FCFRD suppression units are staffed with a minimum of 4 personnel so this unit will also initiate hazard mitigation by fire attack, confinement of hazard, or rescue of endangered persons.

Effective Response Force (ERF) measures the time of the accumulation of personnel and resources to meet the effective response force defined in the *critical task analysis* documented in this Standards of Cover. The FCFRD response is the unit that meets this ERF requirement when it arrives and whose times are measured.

Total Response Time Components:

The FCFRD measures baseline performance in terms of *total response time*, which is the time it takes from the call to be received at the Public Safety Answering Point (PSAP) until the first unit arrives on the scene of the emergency incident. Total response time is measured for all first-in and ERF responses. Total response time is composed of *call-processing time*, *turnout time*, and *travel time*.

Call processing time is the time the call being received at the PSAP to the dispatching of the first FCFRD unit. This is measured for all emergency incidents.

Turnout Time is the elapsed time from when a unit is dispatched until that unit changes their status to 'responding'. This time is measured for all first-in units that are dispatched to an emergency incident.

Travel time is the elapsed time from when a unit begins to respond until its arrival on the scene. This time is measured for all first-in and ERF responses.

Population Categories

During the community risk analysis all areas of the agency were designated as urban and rural. Because rural areas generally have a lower probability and magnitude of risk, the number of emergency incidents is lower in these areas, and these areas are further from FCFRD resources, baseline performance is measured separately for rural and urban population categories. This two-tier baseline evaluation measures performance in both areas however the FCFRD has adopted a single benchmark based on NFPA 1710 standards with its goal being to provide a consistent and high level of service to all areas of the agency.

Hazard Types

In line with the Center for Public Safety Excellence (CPSE) Community Risk Assessment: Standards of Cover, 6th Ed., the FCFRD evaluates emergency response performance in four primary service types: Emergency Medical, Fire Suppression, Hazardous Materials, and Technical Rescue. The FCFRD also evaluates Non-Fire Emergency performance for the purpose of improving those areas of service response. This was done on a 'type dispatched' rather than a 'type found' basis and uses the agency established event code found in Appendix A of the Fairfax County Fire and Rescue Department Communications Manual.

Risk Levels

Risks for each type of incident are expressed in terms of low, moderate, high, and maximum risk. The meanings of these categories are defined in Section 2.4 of this document under Critical Task Analysis.

Performance System Wide

Incidents per Service Line				
Service Line	FY17	FY16	FY15	Total
EMS Emergency	71,875	69,081	66,750	207,706
Fire	3,723	3,529	3,498	10,750
Hazmat	1,528	1,366	1,260	4,154
Rescue	1,416	1,350	1,383	4,149
Total	78,542	75,326	72,891	226,759

Incidents per Service line with Risk Break Out				
Service Lines	FY17	FY16	FY15	Total
EMS Emergency				
High	274	272	215	761
Low	22,214	20,960	20,834	64,008
Maximum	1	1	0	2
Moderate	49,386	47,848	45,701	142,935
EMS Emergency Total	71,875	69,081	66,750	207,706
Fire				
High	598	606	633	1,837
Low	2,268	2,061	1,921	6,250
Maximum	188	217	223	628
Moderate	669	645	721	2,035
Fire Total	3,723	3,529	3,498	10,750
Hazmat				
High	61	36	32	129
Low	545	477	455	1,477
Maximum	7	6	5	18
Moderate	915	847	768	2,530
Hazmat Total	1,528	1,366	1,260	4,154
Rescue				
High	81	75	70	226
Maximum	1	0	0	1
Moderate	1,334	1,275	1,313	3,922
Rescue Total	1,416	1,350	1,383	4,149
All Services Total	78,542	75,326	72,891	226,759

Emergency Medical Services

For 90 percent of all EMS responses, the total response time for the arrival of the first due unit, staffed with minimum 2 personnel, is 6 minutes and 30 seconds.

For 90 percent of all moderate risk EMS response incidents, the total response time for the arrival of the effective response force (ERF), staffed with minimum 6 personnel with a minimum of 2 ALS providers, is 6 minutes and 30 seconds.

For 90 percent of all high risk EMS response incidents the total response time for the arrival of the ERF, staffed with minimum 9 personnel, is 12 minutes and 30 seconds.

For 90 percent of all maximum risk EMS response incidents the total response time for the arrival of the ERF, staffed with minimum 30 personnel, is 12 minutes and 40 seconds.

(Low Risk) EMS - 90th Percentile Times - Baseline Performance			FY15-FY17	2017	2016	2015
Alarm Handling	Pick-up to Dispatch	Urban	0:03:40	0:03:39	0:03:42	0:03:38
		Rural	0:03:34	0:03:37	0:03:33	0:03:33
Turnout Time	Turnout Time 1st Unit	Urban	0:01:49	0:01:45	0:01:51	0:01:52
		Rural	0:01:53	0:01:49	0:01:54	0:01:55
Travel Time	Travel Time 1st Unit Distribution	Urban	0:07:00	0:06:46	0:07:03	0:07:09
		Rural	0:08:27	0:08:27	0:08:25	0:08:28
	Travel Time ERF Concentration	Urban	0:07:00	0:06:47	0:07:04	0:07:10
		Rural	0:08:28	0:08:29	0:08:25	0:08:30
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	0:11:10	0:10:56	0:11:14	0:11:22
			n= 55,396	19,262	18,084	18,050
		Rural	0:12:26	0:12:27	0:12:24	0:12:23
			n= 3,109	1,100	1,014	995
	Total Response Time ERF Concentration	Urban	0:11:10	0:10:56	0:11:15	0:11:22
			n= 55,357	19,250	18,065	18,042
		Rural	0:12:29	0:12:29	0:12:37	0:12:26
			n= 3,104	1,099	1,010	995

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

(Moderate Risk) EMS - 90th Percentile Times - Baseline Performance			FY15-FY17	2017	2016	2015
Alarm Handling	Pick-up to Dispatch	Urban	0:02:54	0:02:54	0:02:56	0:02:52
		Rural	0:02:48	0:02:48	0:02:46	0:02:52
Turnout Time	Turnout Time 1st Unit	Urban	0:01:48	0:01:44	0:01:49	0:01:50
		Rural	0:01:52	0:01:48	0:01:54	0:01:54
Travel Time	Travel Time 1st Unit Distribution	Urban	0:05:53	0:05:54	0:05:58	0:05:47
		Rural	0:07:00	0:07:01	0:07:05	0:06:53
	Travel Time ERF Concentration	Urban	0:08:03	0:08:07	0:08:04	0:07:56
		Rural	0:09:27	0:09:25	0:09:18	0:09:34
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	0:09:13	0:09:11	0:09:20	0:09:07
			n=128,981	44,524	43,201	41,256
		Rural	0:10:13	0:10:12	0:10:12	0:10:18
			n=7,649	2,648	2,480	2,521
	Total Response Time ERF Concentration	Urban	0:11:34	0:11:34	0:11:41	0:11:28
			n= 116,552	40,372	38,953	37,227
		Rural	0:12:46	0:12:41	0:12:38	0:12:58
			n= 6,950	2,404	2,273	2,273

(High Risk) EMS - 90th Percentile Times - Baseline Performance			FY15-FY17	2017	2016	2015
Alarm Handling	Pick-up to Dispatch	Urban	0:03:35	0:03:50	0:03:29	0:03:13
		Rural	0:02:59	0:03:01	0:01:54	0:01:58

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

Turnout Time	Turnout Time 1st Unit	Urban	0:02:06	0:02:04	0:02:13	0:02:03
		Rural	0:02:26	0:02:23	0:02:31	0:02:36
Travel Time	Travel Time 1st Unit Distribution	Urban	0:07:50	0:08:04	0:06:52	0:08:45
		Rural	0:10:39	0:10:21	0:10:39	0:10:50
	Travel Time ERF Concentration	Urban	0:10:30	0:11:04	0:10:30	0:10:20
		Rural	0:17:25	*		
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	0:11:43	0:11:47	0:11:21	0:12:35
			n= 588	217	198	173
		Rural	0:13:55	*	0:13:49	*
			n= 26	8	11	7
	Total Response Time ERF Concentration	Urban	0:18:46	0:17:09	0:19:41	0:17:34
			n= 177	79	53	45
		Rural	0:19:21	*		
			n= 6	4	1	1

* n value too low for a statistical analysis of the 90th percentile

(Maximum Risk) EMS - 90th Percentile Times - Baseline Performance	FY15-FY17	2017	2016	2015
** There were not enough maximum risk EMS events for a statistical analysis of the 90th Percentile				

Fire Suppression

For 90 percent of all fire suppression incidents, the total response time for the arrival of the first due unit, staffed with minimum 4 personnel, is 6 minutes and 24 seconds.

For 90 percent of all moderate risk fire suppression incidents, the total response time for the arrival of the effective response force (ERF), staffed with minimum 15 personnel, is 10 minutes and 24 seconds.

For 90 percent of all high risk fire suppression incidents, the total response time for the arrival of the ERF, staffed with minimum 29 personnel, is 12 minutes and 34 seconds.

For 90 percent of maximum risk fire suppression response incidents the total response time for the arrival of the ERF, staffed with minimum 43 personnel, is 12 minutes and 34 seconds.

(Low Risk) Fire - 90th Percentile Times - Baseline Performance			FY15-FY17	2017	2016	2015
Alarm Handling	Pick-up to Dispatch	Urban	0:03:10	0:03:10	0:03:06	0:03:11
		Rural	0:03:07	0:03:18	0:02:54	0:02:53
Turnout Time	Turnout Time 1st Unit	Urban	0:01:44	0:01:44	0:01:43	0:01:46
		Rural	0:01:48	0:01:45	0:02:01	0:01:47
Travel Time	Travel Time 1st Unit Distribution	Urban	0:08:27	0:08:52	0:08:19	0:08:03
		Rural	0:09:55	0:10:48	0:09:57	0:09:10
	Travel Time ERF Concentration	Urban	0:08:41	0:09:06	0:08:38	0:08:08
		Rural	0:11:01	0:11:15	0:10:55	0:09:26
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	0:11:58	0:12:20	0:11:42	0:11:43
			n= 4,434	1,572	1,490	1,372
		Rural	0:13:41	0:13:51	0:13:40	0:12:32
			n= 442	185	125	132
	Total Response Time ERF Concentration	Urban	0:12:15	0:12:40	0:12:01	0:11:57
			n= 4,357	1,545	1,467	1,345
		Rural	0:14:03	0:14:08	0:14:03	0:13:30
			n= 428	180	121	127

(Moderate Risk) Fire - 90th Percentile Times - Baseline Performance			FY15-FY17	2017	2016	2015
Alarm Handling	Pick-up to Dispatch	Urban	0:02:38	0:02:32	0:02:39	0:02:41
		Rural	0:02:22	0:02:08	0:02:23	0:02:31
Turnout Time	Turnout Time 1st Unit	Urban	0:01:59	0:01:51	0:02:00	0:02:06
		Rural	0:01:58	0:01:52	0:02:05	0:01:57
Travel Time	Travel Time 1st Unit Distribution	Urban	0:05:54	0:05:51	0:06:04	0:05:41
		Rural	0:07:08	0:07:13	0:07:00	0:08:06
	Travel Time ERF Concentration	Urban	0:09:19	0:08:33	0:10:18	0:09:15
		Rural	0:10:56	0:10:21	0:10:57	0:10:56
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	0:09:02	0:08:55	0:09:04	0:09:03
			n= 1,594	523	525	546
		Rural	0:09:55	0:09:27	0:09:34	0:10:41
			n= 193	70	64	59
	Total Response Time ERF Concentration	Urban	0:13:21	0:12:59	0:14:10	0:13:04
			n= 715	225	234	256
		Rural	0:15:17	0:13:58	0:16:14	0:15:17
			n= 93	38	30	25

(High Risk) Fire - 90th Percentile Times - Baseline Performance			FY15-FY17	2017	2016	2015
Alarm Handling	Pick-up to Dispatch	Urban	0:02:46	0:02:46	0:02:40	0:02:48
		Rural	0:02:31	0:02:30	0:02:43	0:02:31
Turnout Time	Turnout Time 1st Unit	Urban	0:02:00	0:01:56	0:01:59	0:02:03
		Rural	0:02:02	0:01:38	0:02:28	0:01:52
Travel Time	Travel Time 1st Unit Distribution	Urban	0:05:02	0:04:54	0:05:19	0:04:56
		Rural	0:05:05	0:04:04	0:05:05	0:08:20
	Travel Time ERF Concentration	Urban	0:13:22	0:13:31	0:13:04	0:13:27
		Rural	0:14:24	0:15:37	0:15:42	0:11:27
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	0:08:16	0:08:07	0:08:39	0:07:55
			n=1,505	509	496	500
		Rural	0:08:28	0:06:45	0:08:27	0:11:45
			n=41	12	14	15
	Total Response Time ERF Concentration	Urban	0:18:11	0:18:05	0:18:18	0:18:08
			n= 694	232	224	238
		Rural	0:19:24	*	*	*
			n= 21	6	7	8

* n value too low for a statistical analysis of the 90th percentile

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

(Maximum Risk) Fire - 90th Percentile Times - Baseline Performance			FY15-FY17	2017	2016	2015
Alarm Handling	Pick-up to Dispatch	Urban	0:02:55	0:02:54	0:02:55	0:03:04
		Rural	0:02:42	0:02:01	0:02:32	0:03:40
Turnout Time	Turnout Time 1st Unit	Urban	0:02:14	0:02:06	0:02:14	0:02:18
		Rural	0:01:49	0:01:23	0:01:49	0:02:36
Travel Time	Travel Time 1st Unit Distribution	Urban	0:05:59	0:06:20	0:05:59	0:05:36
		Rural	0:07:33	0:05:59	0:12:50	0:07:33
	Travel Time ERF Concentration	Urban	0:15:56	0:18:03	0:12:49	0:09:06
		Rural	* n value too low for a statistical analysis of the 90th percentile			
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	0:09:36	0:09:59	0:09:55	0:08:54
			n= 463	140	159	164
		Rural	0:11:38	*		
			n= 13	4	4	5
	Total Response Time ERF Concentration	Urban	0:24:12	*	*	*
			n=19	8	7	4
		Rural	**			
			**	**	**	**

* n value too low for a statistical analysis of the 90th percentile

** Event mitigated before arrival of full effective response force (ERF)

Hazardous Materials Incidents

For 90 percent of all hazardous materials incidents, the total response time for the arrival of the first due unit, staffed with minimum 4 personnel, is 6 minutes and 24 seconds.

For 90 percent of all moderate risk hazardous materials response incidents, the total response time for the arrival of the effective response force (ERF) including the hazardous materials response team, staffed with minimum 6 personnel, is 10 minutes and 24 seconds in urban.

For 90 percent of all high risk hazardous materials response incidents, the total response time for arrival of the ERF, staffed with minimum 23 personnel, is 10 minutes and 24 seconds.

For 90 percent of all maximum risk hazardous materials response incidents, the total response time for arrival of the ERF, staffed with minimum 28 personnel, is 12 minutes and 34 seconds.

(Low Risk) Hazmat - 90th Percentile Times - Baseline Performance			FY15-FY17	2017	2016	2015
Alarm Handling	Pick-up to Dispatch	Urban	0:03:06	0:02:58	0:03:10	0:03:08
		Rural	0:02:50	0:02:50	0:02:56	0:02:29
Turnout Time	Turnout Time 1st Unit	Urban	0:01:56	0:01:55	0:01:54	0:01:58
		Rural	0:01:57	0:01:48	0:02:16	0:01:56
Travel Time	Travel Time 1st Unit Distribution	Urban	0:06:57	0:06:46	0:07:11	0:06:53
		Rural	0:07:47	0:07:37	0:06:48	0:08:41
	Travel Time ERF Concentration	Urban	0:07:00	0:06:47	0:07:12	0:06:55
		Rural	0:08:05	0:07:37	0:09:22	0:08:41
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	0:10:36	0:10:22	0:10:45	0:11:02
			n=1,124	445	399	380
		Rural	0:10:34	0:10:26	0:10:46	0:10:34
			n=90	35	24	31
	Total Response Time ERF Concentration	Urban	0:10:37	0:10:25	0:10:48	0:11:03
			n=1,221	444	397	380
		Rural	0:10:46	0:10:26	0:12:17	0:10:34
			n=90	35	24	31

(Moderate Risk) Hazmat - 90th Percentile Times - Baseline Performance			FY15-FY17	2017	2016	2015
Alarm Handling	Pick-up to Dispatch	Urban	0:03:14	0:03:18	0:03:02	0:03:17
		Rural	0:03:29	0:03:19	0:03:12	0:03:34
Turnout Time	Turnout Time 1st Unit	Urban	0:01:55	0:01:52	0:01:57	0:01:56
		Rural	0:01:55	0:01:47	0:01:53	0:01:58
Travel Time	Travel Time 1st Unit Distribution	Urban	0:05:46	0:05:54	0:05:42	0:05:40
		Rural	0:06:58	0:07:14	0:07:07	0:06:12
	Travel Time ERF Concentration	Urban	0:06:51	0:07:06	0:07:00	0:06:34
		Rural	0:08:26	0:08:11	0:09:27	0:08:13
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	0:09:19	0:09:29	0:09:18	0:09:08
			n=2,280	833	752	695
		Rural	0:10:44	0:09:51	0:11:00	0:10:11
			n=135	40	51	44
	Total Response Time ERF Concentration	Urban	0:10:37	0:10:59	0:10:33	0:10:23
			n=2,240	813	742	685
		Rural	0:12:28	0:11:32	0:12:28	0:12:11
			n=134	40	50	44

(High Risk) Hazmat - 90th Percentile Times - Baseline Performance			FY15-FY17	2017	2016	2015
Alarm Handling	Pick-up to Dispatch	Urban	0:04:41	0:05:06	0:04:31	0:04:49
		Rural	*			
Turnout Time	Turnout Time 1st Unit	Urban	0:01:52	0:01:45	0:02:00	0:01:55
		Rural	*			
Travel Time	Travel Time 1st Unit Distribution	Urban	0:07:46	0:08:29	0:06:46	0:06:03
		Rural	*			
	Travel Time ERF Concentration	Urban	0:19:20	0:18:07	0:12:02	0:19:20
		Rural	*			
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	0:13:20	0:13:20	0:11:32	0:15:18
			n=99	50	26	23
		Rural	*			
			n = 5	2	1	2
	Total Response Time ERF Concentration	Urban	**			
			**	**	**	**
		Rural	*			
			*	*	*	*

* n value too low for a statistical analysis of the 90th percentile

** Event mitigated before arrival of full effective response force (ERF)

Technical Rescue Incidents

For 90 percent of all technical rescue incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 4 personnel, is 6 minutes and 24 seconds.

For 90 percent of all moderate risk technical rescue incidents, the total response time for the arrival of the effective response force (ERF), staffed with a minimum 9 personnel, is 10 minutes and 24 seconds.

For 90 percent of all high risk technical rescue incidents, the total response time for the arrival of the ERF, staffed with a minimum 25 personnel, is 10 minutes and 24 seconds.

For 90 percent of all maximum risk technical rescue incidents, the total response time for the arrival of the ERF, staffed with a minimum 34 personnel, is 12 minutes and 34 seconds.

(Moderate Risk) Rescue - 90th Percentile Times - Baseline Performance			FY15-FY17	2017	2016	2015
Alarm Handling	Pick-up to Dispatch	Urban	0:03:20	0:03:19	0:03:22	0:03:18
		Rural	0:03:15	0:03:26	0:03:06	0:03:05
Turnout Time	Turnout Time 1st Unit	Urban	0:01:58	0:01:55	0:01:59	0:02:01
		Rural	0:01:55	0:01:47	0:01:57	0:01:57
Travel Time	Travel Time 1st Unit Distribution	Urban	0:06:44	0:06:42	0:06:37	0:06:51
		Rural	0:07:31	0:07:32	0:07:31	0:07:04
	Travel Time ERF Concentration	Urban	0:09:45	0:09:32	0:09:43	0:09:59
		Rural	0:11:12	0:12:08	0:11:00	0:09:24
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	0:10:28	0:10:38	0:10:18	0:10:32
			n=2,519	838	823	858
		Rural	0:10:35	0:10:45	0:11:26	0:09:27
			n=363	126	114	123
	Total Response Time ERF Concentration	Urban	0:13:55	0:13:40	0:13:56	0:14:11
			n=1,607	542	513	552
		Rural	0:16:58	0:18:13	0:15:17	0:14:51
			n=191	78	51	62

(High Risk) Rescue - 90th Percentile Times - Baseline Performance			FY15-FY17	2017	2016	2015
Alarm Handling	Pick-up to Dispatch	Urban	0:04:31	0:03:35	0:05:06	0:04:19
		Rural	0:04:44	0:04:56	0:03:40	0:04:44
Turnout Time	Turnout Time 1st Unit	Urban	0:02:17	0:02:17	0:02:18	0:02:13
		Rural	0:02:39	0:02:20	0:02:45	0:02:56
Travel Time	Travel Time 1st Unit Distribution	Urban	0:06:40	0:06:16	0:06:09	0:06:50
		Rural	0:12:01	0:09:20	0:14:10	0:11:36
	Travel Time ERF Concentration	Urban	0:16:59	0:19:40	0:16:59	0:16:58
		Rural	*			
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	0:11:33	0:10:52	0:12:10	0:11:26
			n=124	40	43	41
		Rural	0:18:56	0:15:47	0:22:24	0:18:02
			n=53	19	18	16
	Total Response Time ERF Concentration	Urban	0:22:50	0:22:16	0:23:39	0:22:27
			n=27	7	9	11
		Rural	**			
			**			

* n value too low for a statistical analysis of the 90th percentile

** Event mitigated before arrival of full effective response force (ERF)

Alarm Time to First Dispatch Time - Outliers over 360 seconds excluded (All Records FY15-FY17)								
Service Line	90th Percentile (Seconds)	90th Percentile hh:mm:ss	Average (Seconds)	Average hh:mm:ss	Min Time	Max Time	Standard Deviation	St Dev hh:mm:ss
EMS Emergency	59	0:00:59	29	0:00:29	0	360	28.01	0:00:28
Fire	72	0:01:12	41	0:00:41	0	360	26.55	0:00:27
Hazmat	76	0:01:16	40	0:00:40	0	308	29.94	0:00:30
Rescue	91	0:01:31	50	0:00:50	0	360	36.99	0:00:37

2.6 Benchmark Objectives

FCFRD is an all-hazards metropolitan agency that has established benchmarks for emergency medical services, fire suppression, hazardous materials, technical rescue, and all other emergency response types. These benchmark objectives have been in place for over 10 years and were established using industry standards and an agency vision of being *“the best community focused fire and rescue department ensuring a safe and secure environment for all”*. This vision establishes a consistent benchmark across all service areas within our community knowing that our baseline performance reporting will reflect this in the limited rural areas within the County. The industry standards included in establishment of the FRD benchmarks are NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments; NFPA 1221: Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems.

Call processing and turn out time

Call Processing Performance Objectives have been established by the FCFRD understanding that the Fairfax County Department of Public Safety Communications is responsible for all dispatching of public safety. For all incidents types not identified in NFPA 1221: 7.4.2.2, the first alarm should be dispatched within 64 seconds, 90 percent of the time. Incidents requiring emergency medical dispatching will be completed within 90 seconds, 90 percent of the time.

Turn out time objectives have been established for all responding units to be out the door within 80 seconds of dispatch, 90 percent of the time for all emergency dispatches with the exception of emergency medical incidents. For all emergency medical incidents, responding units will be out the door within 60 seconds of dispatch, 90 percent of the time.

Emergency Medical Incidents

90 percent of all EMS incidents, the total response time for the first arriving unit, staffed with a minimum of 2 personnel, with 1 being an ALS provider, is 6 minutes and 30 seconds. The first due unit is capable of assessing scene safety and establishing command; sizing up the situation; conducting an initial ALS patient assessment and interactions including; cardiopulmonary resuscitation; bag valve mask ventilation; intravenous access; endotracheal intubation; IV medications.

Emergency Medical Incidents – ERF

FCFRD operates an all ALS fleet deployment model to insure that in addition to transport units, all apparatus with the exception of command vehicles operate with one ALS provider equipped with a full cache of ALS equipment as established by agency protocols. An EFR for all ALS priority responses will consist of a minimum of one transport unit and one suppression unit with a total of 6 fire department personnel with a minimum of 2 ALS providers and shall have a total response time for 90 percent for incidents of, 6 minutes and 30 seconds. Critical ALS patients

will add an EMS Supervisor. Historically, the FCFRD has not measured EFR performance and will recommend adjustments to data collection to begin doing so.

Fire Suppression Incidents

For 90 percent of all fire suppression incidents, the total response time for the arrival of the first due unit, staffed with a minimum of four personnel, shall be 6 minutes and 24 seconds for all service areas within the county. The first due unit is capable of: providing 750 gallons of water; 40 gallons of class B foam and 1,250 gallons per minute (gpm) pumping capacity; performing a size-up and calling for additional resources; establishing command; establishing an uninterrupted water supply; advancing an attack line to contain or extinguish fire; performing search and rescue of viable victims; and performing salvage operations. All operations are done within accordance with FCFRD policy and operational guidelines.

Fire Suppression Incidents – ERF

For 90 percent of all fire suppression incidents, the total response time for the arrival of the effective response force (ERF) for a moderate risk, staffed with a minimum of 15 personnel, shall be 10 minutes and 24 seconds for all service areas of the county. The EFR for all risks shall be capable of: establishing command; providing two uninterrupted water sources; advancing an attack line and back-up line for fire control; complying with the Occupational Safety and Health Administration (OSHA) requirement of 2 in-2 out; complete forcible entry; complete primary search and rescue; control utilities and perform salvage and overhaul.

Hazardous Materials Incidents

For 90 percent of all hazardous materials incidents, the total response time for the first due unit, staffed with 4 personnel is 6 minutes and 24 seconds. The first due unit is capable of: performing incident size-up; establishing command; requesting additional resources; isolating and denying entry; evacuation; assisting the hazardous materials team members with support operations. All operations are done in accordance with departmental Standard Operating Procedures and the Fairfax County Fire and Rescue Department Hazardous Materials Manual.

Hazardous Materials Incidents – ERF

For 90 percent of all hazardous materials incidents, the total response time for the arrival of the ERF, staffed with 6 Hazardous Materials Technicians, is 10 minutes and 24 seconds for all service areas of the county. The ERF for all risks is capable of responding with a minimum of 4 HazMat Technicians with a competence level under Title 29 of the Code of Federal Regulations (CFR) 1910.120 with one Heavy Rescue designated HazMat specialty or Hazardous Materials primary response unit able to establish command; establish a working perimeter; assemble a mitigation team while maintaining OSHA requirements of 2 in- 2 out. All operations are done in accordance with departmental Standard Operating Procedures and the Fairfax County Fire and Rescue Department Hazardous Materials Manual.

Technical Rescue Incidents

For 90 percent of all technical rescue incidents, the total response time for the first due unit, staffed with 4 personnel, is 6 minutes and 24 seconds. The first due unit is capable of: performing a size-up; requesting additional resources; establishing command; isolating and denying entry; evacuating uninvolved persons and assisting technical rescue teams members in

operational support functions. All operations are done in accordance with departmental Standard Operating Procedures and the Fairfax County Fire and Rescue Department Special Operations Manual.

Technical Rescue Incidents – ERF

For 90 percent of all technical rescue incidents, the total response time for the arrival of the ERF, staffed with 9 FRD trained and certified technical rescue personnel, is 10minutes 24 seconds for all service areas of the county. The ERF for all risks is capable of: establishing command; performing water/flood rescue, technical rope rescue, confined space rescue, trench rescues, machinery entrapment, structural collapse rescue; complying with OSHA requirements. All operations are done in accordance with departmental Standard Operating Procedures and the Fairfax County Fire and Rescue Department Special Operations Manual, NFPA 1855, NFPA 1006, NFPA 1670 while providing for the safety of responders and general public.

Other Emergencies

For 90 percent of all fire suppression incidents, the total response time for the arrival of the first due unit, staffed with a minimum of four personnel, shall be 6 minutes and 24 seconds for all service areas within the county. The first due unit is capable of: performing a size-up and calling for additional resources; establishing command; isolating and denying entry; evacuating uninvolved persons; performing search and rescue of viable victims; and performing atmospheric monitoring. All operations are done within accordance with FRD policy and operational guidelines.

Benchmark Table

Table – Benchmark Objectives for all population categories

Measured at the 90th Percentile		Fire Incidents	Emergency Medical Incidents	Hazmat Incidents	Tech Rescue Incidents
Call Processing	Pick-up to Dispatch	1:04	1:30	1:04	1:04
Turnout	Turnout Time 1st In	1:20	1:00	1:20	1:20
Travel	Travel Time 1st In	4:00	4:00	4:00	4:00
	Travel Time Moderate ERF	8:00	8:00	8:00	8:00
	Travel Time for High ERF	10:10	10:10	10:10	10:10
	Travel Time Maximum ERF	10:10	10:10	10:10	10:10
Total Response Time	Total Response Time 1st In	6:24	6:30	6:24	6:24
	Total Response Time Moderate ERF	10:24	10:30	10:24	10:24
	Total Response Time High ERF	12:34	12:30	12:34	12:34
	Total Response Time Maximum ERF	12:34	12:40	12:34	12:34

2.7 Evaluation of Performance

The FRD remains committed to a process of self-evaluation and continuous improvement and embedding this mindset into its culture. The Standards of Cover (SOC) developed herein are an effort to further quantify current performance and establish tangible levels for future improvement. These standards will be evaluated continually and will be updated each year. Moreover, as previously indicated, this SOC is considered a living document and will be a permanent part of the department's budget development and community-driven strategic planning processes.

Evaluation Methodology

The department has historically performed statistical analysis on its system performance and adjusted service delivery based upon the outcomes. In 2008, the first comprehensive Geographic Information System (GIS) fire suppression and emergency medical services response capabilities analysis was completed. Several information sources including the agencies annual reports, County government capital improvement planning, County government public safety staffing plans, and agencies annual unit response activity reports are focused toward the governing body and agency goals of safe staffing levels and service response times based on NFPA 1710, across all areas of the County.

As of FY2017, the department has made adjustments to its Unit Activity reporting to reflect the CFAI service categories for EMS, Fire, HazMat, Technical Rescue, and Non-Fire Emergency. This change will be an ongoing method to analyze performance against benchmarks established in this SOC. To establish an evaluation methodology to support the culture and mindset of "how can we improve?" the department will leverage strengths identified in its strategic planning process, performance gaps identified in its ongoing performance assessment and evaluate identified issues using the following process:

1. Technical review – What are the recommended changes to the service delivery system and what are the probable or expected results? How will it be accomplished?
2. Operational review – Is the service delivery change safe, and will it work in the field with available resources? What will the impact be to overall operations?
3. Fiscal review – Is the benefit worth the cost, and is it sustainable? What will the overall financial impact be to the department and the governing body?
4. Policy review – Does the scenario fit within the mission and core values of the department? Will there be any negative internal or community impact or reaction, and if so is the benefit worth it?
5. Repeat the process – Once adjustments to service delivery are made the process of assessment and evaluation will begin again.

Based on this analysis, the scenarios that have the greatest likelihood for effective and efficient positive change will be presented as recommendations to this SOC.

Factors to Consider

Fairfax County Government has an adopted Vision to protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County by:

- Maintaining Safe and Caring Communities
- Building Livable Spaces
- Connecting People and Places
- Maintaining Healthy Economies
- Practicing Environmental Stewardship
- Creating a Culture of Engagement
- Exercising Corporate Stewardship

Fairfax County Government has an adopted FY2017 - FY2021 Capital Improvement Plan linked to its comprehensive plan that has established objectives and policies in order to:

- Establish and maintain, at a minimum, a 7-minute response time coverage for fire and rescue emergencies to at least 95% of the county's population.
- Locate fire stations on a street with traffic signal with pre-emption capability at a nearby intersection.
- Build new fire and rescue stations in Tysons Corner area and continue to renovate older existing fire stations.

The Fairfax County Fire and Rescue Department has an adopted FY2016-FY2020 Staffing Needs Analysis that has identified the following resource requirements:

- Four person staffing on truck companies completed in addition to all heavy rescues.
- A fourth bureau that will encompass risk management and safety
- Capacity Units
- Command Aides
- Enhanced Research and Development

The Fairfax County Fire and Rescue Department has completed and adopted its 2017-2022 Community Focused Strategic plan that has established the following 9 strategic initiatives:

- Service Delivery
- Human Resources
- Training and Workforce Planning
- Fire Prevention
- Health and Wellness
- Infrastructure

- Technology
- Internal Communications
- External Communications

2.8 Plan for maintaining and improving performance

The FCFRD is an organization of committed personnel working with modern and well maintained fire stations, apparatus, and equipment. It provides an all-hazard approach toward emergency and life safety services, has an established fire training academy, good employee group/ management relations, and an overall positive public image. Additionally, the department has achieved an ISO public protection classification (PPC) rating of Class 1, the best available.

To ensure the agency is meeting or approaching current service level objectives (benchmarks), continuous monitoring of service level baselines must be conducted. FCFRD begins the review process by conducting a community risk assessment, including the response demands and identifiable risks within each planning zone. Changes in community demographics and growth over the previous twelve-month period will be reviewed. The agency determines if there have been any significant changes within planning zones, changes to service demands, or changes in standards or operations that impact the service level objectives or the Standard of Cover document.

The agency will continue to review service level baselines and system performance. Included in the review are a summary of the results of the service level objectives, a comparison of current results to previous results, and calculations of the difference in results between time periods. To aid in the collection and presentation of this information, the agency works as a group to assemble all required information and assist the FCFRD administration in the interpretation of data and considerations for improvement towards achieving benchmarks objectives. The service level objectives are incorporated for fire and other emergencies in its self-assessment manual. Findings of the self-assessment review are translated, where needed, into budgetary requests for the coming fiscal year budget preparation.

Correlation of CRA-SOC to CFAI Accreditation Model

As stated in the introduction of the CPSE Community Risk Assessment: Standards of Cover 6th edition, the CRA-SOC is the first and foundational element of the accreditation process. There is significant connection between the finished CRA-SOC and Category II and CFAI's entire accreditation model. Provided below is the correlation matrix for documenting where the links between the FCFRD's finished CRA-SOC and CFAI's accreditation model can be found.

CFAI FESSAM 9 th Edition - Performance Indicator/ Core Competency			CRA-SOC Page(s)
	2A.1	Service area boundaries for the agency are identified, documented, and legally adopted by the authority having jurisdiction.	11
	2A.2	Boundaries for other service responsibility areas, such as automatic aid, mutual aid, and contract areas, are identified, documented, and appropriately approved by the authority having jurisdiction.	45
CC	2A.3	The agency has a documented and adopted methodology for organizing the response area(s) into geographical planning zones.	45
CC	2A.4	The agency assesses the community by planning zone and considers the population density within planning zones and population areas, as applicable, for the purpose of developing total response time standards.	46-222
	2A.5	Data that includes property, life, injury, environmental, and other associated losses, as well as the human and physical assets preserved and or saved, are recorded for a minimum of three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.	38
	2A.6	The agency utilizes its adopted planning zone methodology to identify response area characteristics such as population, transportation systems, area land use, topography, geography, geology, physiography, climate, hazards and risks, and service provision capability demands.	46-222
	2A.7	Significant socio-economic and demographic characteristics for the response area are identified, such as key employment types and centers, assessed values, blighted areas, and population earning characteristics.	20-22
	2A.8	The agency identifies and documents all safety and remediation programs, such as fire prevention, public education, injury prevention, public health, and other similar programs, currently active within the response area.	33-34
	2A.9	The agency identifies critical infrastructure within the planning zones.	46-222
CC	2B.1	The agency has a documented and adopted methodology for identifying, assessing, categorizing, and classifying risks throughout the community or area of responsibility.	29-32

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

CFAI FESSAM 9 th Edition - Performance Indicator/ Core Competency			CRA-SOC Page(s)
	2B.2	The historical emergency and non-emergency service demands frequency for a minimum of three immediately previous years and the future probability of emergency and non-emergency service demands, by service type, have been identified and documented by planning zone.	46-222
	2B.3	Event consequence loss and save data that includes property, life, injury, environmental, and other losses and saves are assessed for three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.	40
CC	2B.4	The agency's risk identification, analysis, categorization, and classification methodology has been utilized to determine and document the different categories and classes of risks within each planning zone	39-44
	2B.5	Fire protection and detection systems are incorporated into the risk analysis.	46-222
	2B.6	The agency assesses critical infrastructure within the planning zones for capabilities and capacities to meet the demands posed by the risks.	24-28
CC	2C.1	Given the levels of risks, area of responsibility, demographics, and socio- economic factors, the agency has determined, documented, and adopted a methodology for the consistent provision of service levels in all service program areas through response coverage strategies.	225
CC	2C.2	The agency has a documented and adopted methodology for monitoring its quality of emergency response performance for each service type within each planning zone and total response area.	240-246
	2C.3	Fire protection systems and detection systems are identified and considered in the development of appropriate response strategies.	
CC	2C.4	A critical task analysis of each risk category and risk class has been conducted to determine the first due and effective response force capabilities, and a process is in place to validate and document the results.	228-238
CC	2C.5	The agency has identified the total response time components for delivery of services in each service program area and found those services consistent and reliable within the entire response area.	246-248
	2C.6	The agency has identified the total response time components for delivery of services in each service program area and assessed those services in each planning zone	246-248
CC	2C.7	The agency has identified efforts to maintain and improve its performance in the delivery of its emergency services for the past three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.	249-250
	2C.8	The agency's resiliency has been assessed through its deployment policies, procedures, and practices.	226-228

COMMUNITY RISK ASSESSMENT AND STANDARDS OF COVER

CFAI FESSAM 9 th Edition - Performance Indicator/ Core Competency			CRA-SOC Page(s)
CC	2D.1	The agency has documented and adopted methodology for assessing performance adequacies, consistencies, reliabilities, resiliencies, and opportunities for improvement for the total response area.	249
	2D.2	The agency continuously monitors, assesses, and internally reports, at least quarterly, on the ability of the existing delivery system to meet expected outcomes and identifies the remedial actions most in need of attention.	249
CC	2D.3	The performance monitoring methodology identifies, at least annually, future external influences, altering conditions, growth and development trends, and new or changing risks, for purposes of analyzing the balance of service capabilities with new conditions or demands.	249
	2D.4	The performance monitoring methodology supports the annual assessment of the efficiency and effectiveness of each service program at least annually in relation to industry research.	249
	2D.5	Impacts of incident mitigation program efforts, (such as community risk reduction, public education, and community service programs), are considered and assessed in the monitoring process.	249
CC	2D.6	Performance gaps for the total response area, such as inadequacies, inconsistencies, and negative trends, are determined at least annually.	242-245
CC	2D.7	The agency has systematically developed a continuous improvement plan that details actions to be taken within an identified timeframe to address existing gaps and variations.	249
	2D.8	On at least an annual basis, the agency formally notifies the authority having jurisdiction (AHJ) of any gaps in the operational capabilities and capacity of its current delivery system to mitigate the identified risks within its service area, as identified in its standards of cover.	Annual Report Strategic Planning Score Card
	2D.9	On at least an annual basis, the agency formally notifies the AHJ of any gaps between current capabilities, capacity, and the level of service approved by the AHJ.	
	2D.10	The agency interacts with external stakeholders and the AHJ at least once every three years, to determine the stakeholders' and AHJ's expectations for types and levels of services provided by the agency.	Community Focused Strategic Planning

Recommendations:

1. Data and reporting has been done calendar year (CY) and fiscal year (FY) depending upon several factors. Recommend using one format moving forward so information is categorized consistently.
2. The FCFRD does not currently report on civilian injury due to fire. The agency should begin tracking and reporting civilian injuries (in addition to death) and classify them by severity. Recommend tracking civilian fire injuries
3. The FCFRD should consider refining the way it reports fire loss to include contents loss, structure loss values.
4. The FCFRD does not currently or historically track EMS incident ERF performance. Adjust data collection and reporting to reflect this measure.
5. Agency should track Percent Meeting NFPA Turnout Standard for HazMat and Technical Rescue as it does for EMS and Fire.
6. Agency should track percentage of time units are available for dispatch in First Due to better measure system capacity.
7. Annual unit activity reporting should reflect all service lines and include 90th percentile by unit and shift.
8. Evaluate critical tasking and deployment for maximum risk fire emergencies and consider adding a second medic unit to the initial alarm.
9. Address method to capture community risk reduction methods using internal databases sources.
10. Develop a working group with outside dispatching agency to address call processing data collection methodology and improvement strategies.
11. The FCFRD should complete the workload analysis of its deployment system to evaluate performance and capacity to respond to additional requests for service within response zones, i.e. responding to the second and third call.
12. Increase number of agency personnel with access and capability to review, analyze, and process CAD, response and performance data.

Appendices / Exhibits

FY2015 Unit Activity Report

FY2016 Unit Activity Report

FY2017 Unit Activity Report

Risk by Event Type Code Matrix

Fairfax County Communication Manual Appendix B – Response Plans

Maps:

Risk Assessment by Classification (by Response Zone and Fire Box)

Scatter Plot Charts for each risk classification



